
Graduate School of Arts and Sciences

Brandeis University Bulletin 1980~81



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It is the policy of Brandeis University not to discriminate against any applicant on the basis of race, color, religion, sex, age, national origin, or the presence of any handicap. The University operates under an affirmative action plan and encourages minorities and women to apply. Inquiries concerning discrimination under Title IX of the Educational Amendments of 1972 and Section 504 of the Rehabilitation Act of 1973 may be referred to the Assistant to the President for Affirmative Action, Irving Enclave, Room 118, Brandeis University and/or to the Director, Office for Civil Rights, U.S. Department of Education, Washington, D.C.

**Brandeis University
The
Graduate School
of Arts and
Sciences
1980-81**

Waltham, Massachusetts

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"It must always be rich in goals and ideals, seemingly attainable but beyond immediate reach . . .

"It must become truly a seat of learning where research is pursued, books written, and the creative instinct is aroused, encouraged, and developed in its faculty and students.

"It must ever be mindful that education is a precious treasure transmitted — a sacred trust to be held, used, and enjoyed, and if possible strengthened, then passed on to others upon the same trust."

— from the writings of
LOUIS DEMBITZ BRANDEIS (1856-1941)
on the goals of a university



"Brandeis will be an institution of quality, where the integrity of learning, of research, of writing, of teaching, will not be compromised. An institution bearing the name of Justice Brandeis must be dedicated to conscientiousness in research and to honesty in the exploration of truth to its innermost parts.

"Brandeis University will be a school of the spirit — a school in which the temper and climate of the mind will take precedence over the acquisition of skills and the development of techniques.

"Brandeis will be a dwelling place of permanent values — those few unchanging values of beauty, of righteousness, of freedom, which man has ever sought to attain.

"Brandeis will offer its opportunities of learning to all. Neither student body nor faculty will ever be chosen on the basis of population proportions, whether ethnic or religious or economic."

DR. ABRAM L. SACHAR, Brandeis' first president, at ceremonies
inaugurating the University, October 7, 1948

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Academic Calendar 1980-1981

Fall Term

Wednesday	August 27	Returning students register. Fees are payable in full at this time. Students who register later will be fined \$10.
Thursday	August 28	New students register. Fees are payable in full at this time. Students who register later will be fined \$10.
Friday	August 29	Sectioning.
Tuesday	September 2	Opening day of instruction in courses.
Wednesday through Friday	September 10 through September 12	No University Exercises.
Friday	September 19	Final day for filing Study Cards. No program changes for Fall Term may be made after this date.
Thursday	September 25	No University Exercises.
Thursday	October 2	No University Exercises.
Wednesday	November 5	Brandeis Friday. Friday class schedule is in effect.
Monday	November 10	Brandeis Thursday. Thursday class schedule is in effect.
Tuesday	November 18	Brandeis Thursday. Thursday class schedule is in effect.
Thursday	November 27 and Friday November 28	No University Exercises.
Monday	December 1	Last day for February degree candidates to submit drafts of theses and dissertations to department chairmen, and to submit Application for Degree to Graduate School Office.
Tuesday	December 2	Brandeis Thursday. Thursday class schedule is in effect.
Wednesday	December 10	Last day of instruction.
Monday through Friday	December 15 through December 19	Examination period. Winter Recess begins after last examination.
Monday	January 5	Fall Term grades due and Incompletes from Spring Term 1980. Final day for faculty certification that February master's candidates have completed degree requirements, including language(s) and theses, and that Ph.D. candidates have defended dissertations.
Wednesday	January 21	Final day for admission to candidacy and for completion of language requirements for students expecting to earn the Ph.D in May 1981.

Spring Term

Wednesday	January 21	Registration for students entering Spring Term. Registration procedure begins for returning students.
Thursday	January 22	Opening day of instruction in courses.
Wednesday	February 4	Final day for filing Study Cards. No program changes may be made after this day.
Monday	February 16	No University Exercises.
Monday	March 2	Final day for filing Application for Financial Aid for 1981-82.
Monday	March 9	Last day for May degree candidates to submit drafts of theses and dissertations to department chairmen and to file Application for Degree with Graduate School Office.
Wednesday	April 1	Final day for master's candidates to complete foreign language requirement(s) for May degree. Final day for completion of language requirements for students expecting to earn the Ph.D. in February 1982.
Thursday	April 9	Brandeis Monday. Monday class schedule is in effect.
Thursday	April 16	Spring Recess begins after last class. Final day for faculty certification that May Ph.D. candidates have defended dissertations. Final day for May degree candidates to discharge any financial indebtedness to the University.
Monday	April 27	Classes resume.
Friday	May 1	Last day of instruction.
Wednesday	May 6	Final day for deposit of Ph.D. dissertations at the Graduate School Office by May degree candidates.
Wednesday through Tuesday	May 6 through May 12	Final examinations.
Thursday	May 14	Grades due for all degree candidates no later than 10 a.m. Final day for faculty certifications that master's candidates theses have been accepted.
Thursday	May 21	Commencement.
Tuesday	May 26	All Spring Term grades due and Incompletes from Fall Term 1980.



Breaking New Ground

Founded in 1948, amidst the post-World War II explosion of knowledge, Brandeis University literally began at the beginning — at the edge of an educational frontier — but is regarded today as one of the finest small, private research universities in the United States.

Named for the illustrious Supreme Court Justice Louis Dembitz Brandeis, whose far-reaching social vision advanced the welfare of his country, Brandeis is the only Jewish-sponsored, nonsectarian institution of higher learning in America. It is built on the faith in our basic heritage in the humanities, the sciences, the social sciences and the creative arts.

An unswerving commitment to excellence earned early recognition for the young university. Brandeis achieved accreditation in the shortest possible time (1953), and received Phi Beta Kappa recognition just 13 years after it was founded — the youngest institution so honored in over 100 years. The Ford Foundation, assessing the Brandeis record, buttressed its belief in the Brandeis potential during the 1960s with two major challenge grants for academic excellence — an accolade accorded to only five universities in the nation.

The giant multi-universities offer superb facilities and a faculty often too isolated by research from their students. Smaller institutions offer dedicated teachers who, for lack of time or facilities, have stopped doing research. The best of both models meet in only a handful of small schools in the United States. Brandeis is one of them.

Originally accredited in 1953 by the New England Association of Schools and Colleges, Brandeis was approved in 1977 for continuing membership in the Association for ten years, the maximum period available. Of the 2,000 accredited colleges and universities in the nation, about 100 are also known as “research centers.” Brandeis is among this select group. In a survey of professional school deans, the Florence Heller Graduate School for Advanced Studies in Social Welfare was recently ranked fourth in the country among schools of social work. Advanced Judaic studies at Brandeis were described as representing one of the best graduate programs in North America in a study at the Graduate Theological Union of Berkeley, Calif. that examined 75 American and Canadian programs. And the multi-million dollar Rosenstiel Basic Medical Sciences Research Center has attracted some of the top scientists in the world to probe into areas associated with the study of heart disease, immunology and cancer.

A Brandeis education encourages personal fulfillment, but only within the framework of social responsibility. Equipped by a liberal arts education, the individual sees reality as a whole with many intricately connected parts. That individual rejects the idea that there is only one truth, one perspective, one redeeming set of values. Study of the liberal arts is a time of inquiry, honest skepticism, and evolution of the intellect. Paradoxically, a liberal education — despite its lack of specialization — becomes sound preparation for a world that constantly makes old learning obsolete.

Brandeis, therefore, attaches prime importance to the liberal arts curriculum. It is designed to offer full academic opportunities for those students planning to pursue graduate or professional studies, as well as those whose educational objective is the baccalaureate degree.

For full information on the undergraduate curriculum, see the Bulletin of the College of Arts and Sciences.

The Graduate School of Arts and Sciences

History and Organization

The Graduate School of Arts and Sciences was formally established in 1953 when the University's Board of Trustees authorized graduate study in the Departments of Chemistry, Music, Psychology, and Near Eastern and Judaic Studies. The first Master of Arts degree was conferred in 1954; the first Master of Fine Arts degree, in 1954; and the first Doctor of Philosophy degree in 1957.

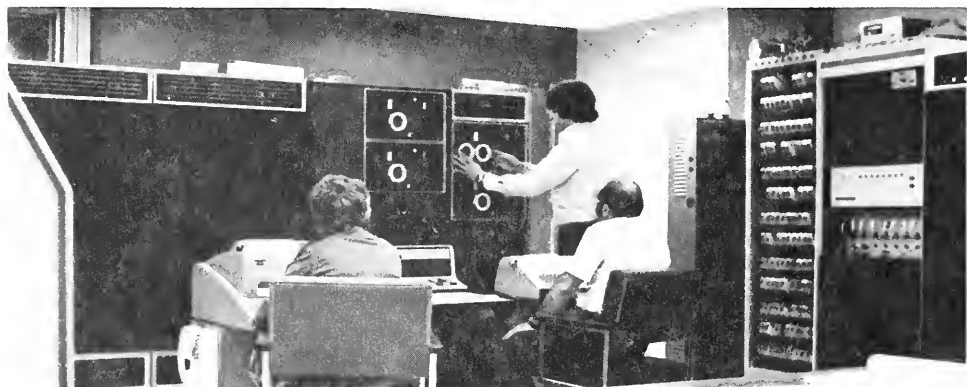
The general direction of the Graduate School is vested in a Graduate Council of the Faculty composed of the President and the Dean of Faculty, ex officio; the Dean of the Graduate School; and one representative, usually the chairman, of each of the several University departments and committees offering graduate instruction. The members of the Graduate Council are appointed by the President on the recommendation of the Dean of the Graduate School. The functions of the Graduate Council, exercised in consonance with University policy, are to determine requirements for admission; to provide programs of study and examinations; to establish and maintain requirements for graduate degrees; to approve candidacy for degrees; to make recommendations for degrees; to make recommendations for new areas of graduate study; to lay down such regulations as may be considered necessary or expedient for governing the Graduate School; and to exercise a general supervision over its affairs. The Dean of the Graduate School is the chairman of the Graduate Council and the chief executive officer of the Graduate School.

Objectives

The underlying ideal of the Graduate School is to assemble a community of scholars, scientists, and artists, in whose company the student-scholar can pursue study and research as an apprentice. This objective is to be attained by individualizing programs of study, restricting the number of students accepted, maintaining continual contact between students and faculty, and fostering the intellectual potential of each student.

Degrees will be granted on the evidence of intellectual growth and development, rather than solely on the basis of formal course credits. Fulfillment of the minimum requirements cannot, therefore, be regarded as the sole requisite for degrees.

The Graduate School of Arts and Sciences is designed to educate broadly as it trains professionally. It offers courses of study leading to the master's and doctoral degrees.



Areas of Graduate Study

During the academic year 1980-81, graduate programs will be offered in the following areas:

- | | |
|--------------------------------------|---------------------------------------|
| 1. Anthropology | 11. Jewish Communal Service |
| 2. Biochemistry | 12. Joint Program of Literary Studies |
| 3. Biology | 13. Mathematics |
| 4. Photobiology | 14. Music |
| 5. Biophysics | 15. Near Eastern and Judaic Studies |
| 6. Chemistry | 16. Physics |
| 7. Classical and Oriental Studies | 17. Politics |
| 8. Comparative History | 18. Psychology |
| 9. English and American Literature | 19. Sociology |
| 10. History of American Civilization | 20. Theater Arts |

Rosenstiel Basic Medical Sciences Research Center

The Dorothy H. and Lewis S. Rosenstiel Basic Medical Sciences Research Center was made possible in 1968 through the gift of the late Lewis S. Rosenstiel, a Brandeis Fellow, as a memorial to his wife, Dorothy. The Center has established research programs in the basic medical sciences embracing work in biochemistry, biology, chemistry, microbiology, physics, biophysics and immunology. Staff members are jointly appointed to the Brandeis faculty basic science departments. The Center invites participation of distinguished scholars and medical scientists, offers hospitality to younger researchers at the undergraduate and fellowship level, sponsors symposia and colloquia and underwrites scholarly publications.

The Basic Medical Sciences Research Center contains sophisticated scientific equipment and facilities. Through cooperative programming, both with departments at Brandeis and in the Boston area, the Center has broadened the scope of basic medical science research offerings at Brandeis. Grants from such agencies as the National Science Foundation, National Institutes of Health, and American Cancer Society, among others, support research programs in the Rosenstiel Center.

The Rosenstiel Center sponsors the annual presentation of the Lewis S. Rosenstiel Award, given to recognize distinguished work in basic medical research. Created in 1971 to also honor Mr. Rosenstiel, the award consists of a handsome bronze medallion and a stipend of \$10,000.

The Florence Heller Graduate School for Advanced Studies in Social Welfare

The Heller Graduate School, from its inception in 1959, has developed a multidisciplinary approach to the study of social policy issues. The faculty represents a broad spectrum of the social sciences and related social welfare professions and includes some of the nation's most respected experts in the major human services areas: gerontology, health policy and planning, long-term care, income maintenance, employment, mental health, developmental disabilities, alcohol abuse, family and children's services.

The Heller School offers both a master's degree in Human Services Management and a doctoral program in Social Welfare. The former prepares graduates for middle and upper-level management careers in the public, private, and non-profit sectors; the latter trains students for positions in policy, planning, administration and research.

Candidates for both programs are selected on the basis of their demonstrated scholastic achievements, the nature and extent of their professional experience, and the compatibility between their career goals and the Heller School's educational programs.

To receive the doctoral degree, a student must complete a minimum of 14 semester courses for those entering with a master's degree in a relevant area, and 18 for students not having an advanced degree. Doctoral candidates must satisfactorily complete a written qualifying examination, which tests students' mastery of the School's core curriculum. Additionally, each student must take an integrative policy analysis seminar, demonstrate reading comprehension in a foreign language, and submit an acceptable doctoral dissertation.

Students seeking a master's in Human Services Management must complete at least twelve courses, including six required core courses, and a management laboratory project. Most students complete the program within a twelve-month, three-semester period, beginning in June and ending in May. Part-time studies are possible and a fifteen-month program is available for highly qualified candidates who have had limited professional experience.

The School conducts an active policy-oriented research program on a wide range of health and welfare issues. Four research centers anchor a variety of projects that are often interdisciplinary in character and involve collaborative activity between faculty and advanced students. They are: The Center for Health Policy Analysis and Research, which conducts studies in three major health care areas — long-term care, health care quality and effectiveness, and regulation and reimbursement; The Levinson Policy Institute, which focuses on the long-term care needs of the elderly and disabled individuals and their families; The Center for Employment and Income Studies, which consolidates the research and training activities in the areas of employment training and income maintenance; and The Center for Aging and Income Maintenance, which focuses on public and private income maintenance programs for the elderly.

In addition, a variety of research projects and training grants are carried out in the fields of family and children's services, mental health, developmental disabilities, and alcoholism.

The School was made possible by an initial endowment from the late Mrs. Florence G. Heller of Chicago and is housed in the Florence Heller Building complex, which includes The Benjamin Brown Research Building. These buildings contain classrooms, offices and research facilities.

Further information is available in the Bulletin of the Heller School. Applications may be obtained from the Heller School Office (617)647-2944.

Graduate School Office

The Graduate School office is located in the Rabb Graduate Center. The office is open Monday through Friday from 9 A.M. to 5 P.M. All requests for information, catalogs and application forms should be addressed to the Dean of the Graduate School of Arts and Sciences, Brandeis University, Waltham, Massachusetts 02254.

Dining Facilities

Graduate students may sign meal contracts for varying numbers of meals or buy cash meal books. Arrangements for these contracts are made at the Food Director's Office in Kutz Dining Hall. A kosher kitchen also is maintained. Individual meals and light snacks may be purchased at Usdan Student Center.

Housing

Brandeis University has a limited number of apartment units available for single and married graduate students. All apartments are within easy walking distance of the campus. These include efficiency, one and two bedroom *unfurnished* apartments as well as efficiency and one bedroom *furnished* apartments. Single students may rent a space in an apartment and request that the Graduate Housing Office assign a roommate. The one bedroom apartments are particularly designed to allow use as two separate bedrooms with a common kitchen and bathroom. Early application for housing is encouraged.

Information, rental rates, and copies of the housing contract may be obtained by writing to the Office of Residence Life and University Housing, Brandeis University, Waltham, Massachusetts 02254.

In addition, the Graduate Housing Office maintains Off-Campus Housing Services (OCHS). OCHS has extensive listings of available housing in the area, a list of realtors who may be helpful in a search for housing, and descriptions and information about nearby neighborhoods and towns. OCHS does not serve as a real estate agent, but rather as a resource to help in locating housing.

Office of International Programs

This office serves as the counseling center for students who come here from other countries. It advises students of special social and educational activities and provides assistance in fulfilling the legal procedures required by the U.S. Immigration Service to obtain working permits and documents necessary for extended periods of study, and in other technical matters which may arise. (See page 15).

In addition, the office provides the Brandeis community with information on academic opportunities abroad such as Fulbright grants for graduate students and faculty, the Watson Fellowships and Rhodes Scholarships for seniors being graduated, the Abram L. Sachar International Fellowship Program (see page 35), and the Jacob Hiatt Institute for study in Israel. American students wishing to study abroad on university-accredited programs should consult this office.

Health Services

Because health and medical care are an integral part of the University experience, the University Health Services provides a program of comprehensive medical and emotional care. A mandatory Health Participation Fee entitles students to medical services available at the Golding Medical Outpatient Facility and counseling services available at Mailman House without additional charge during the academic year. The annual health fee does not pay for off-campus medical consultations, dental care, medications, laboratory tests, drugs, x-rays, reusable supplies or admission to the University's hospital, Stoneman Infirmary, and students are responsible for these charges.

In addition, each student is required to have personal health insurance. The student may elect to participate in the Student Health Insurance Plan offered through the University, underwritten by the Fidelity Life Insurance Company of America, or may substitute membership in another plan.

Except for limited day care facilities, the Health Services and the use of the Stoneman Infirmary are available to students only during the period in which the University is in regular academic session.

Prospective students planning to matriculate in the college and graduate schools must submit a Health Examination Report completed by the family or personal physician prior to registration. In addition to information about previous health and details of the physical examination, evidence of immunization against tetanus, polio, measles, mumps and rubella are required. Since students may not register until the requirements have been satisfied, it is strongly recommended that the Health Examination Report be submitted by July 1.

The Student Health Insurance Plan is designed to defray expenses of those care situations which are beyond the scope of the Health Services; for example, laboratory and x-ray examinations, as well as hospitalization for illnesses or accidents of a more serious nature. The Plan extends for a full calendar year commencing with the first day of the academic year.

A detailed brochure of the services offered by the University Health Services as well as an outline of the details of the Plan is mailed to students. Students and parents are urged to read this brochure carefully and keep it for reference.

Whereas situations not covered within the Health Services or by the Insurance Plan are infrequent, an awareness of these possibilities will lessen misunderstanding and disappointment. In such instances, students and their parents are responsible for expenses which are not covered by the University's health program or its associated insurance policy. Similarly, students and their parents are responsible for expenses which are not covered by alternative insurance programs substituted for the Brandeis University Student Health Insurance Plan.

Psychological Counseling Center — Mailman House

The Psychological Counseling Center, a part of the University Health Services, is located in Mailman House. At the Center, a professionally trained staff provides a range of counseling and psychological services designed to enhance personal development for students and to assist those who are experiencing personal or emotional problems. Individual counseling and brief psychotherapy are available both to undergraduate and graduate students; group therapy is also available on a limited basis. Students can make an appointment to see a counselor by applying directly to the Counseling Center office on the second floor of Mailman House.



Admission

As a rule only well-qualified men and women who have completed the normal four-year program leading to the bachelor's degree will be considered for admission to the Graduate School. Graduates of foreign schools and others who have completed the equivalent of a bachelor's degree program may apply, describing the educational program they have completed.

Testing

Applicants for admission to the graduate programs in biochemistry, biophysics, politics, and psychology are required to take the Graduate Record Examination, including the aptitude test portion and preferably one advanced test in a field related to the proposed area of graduate study. Applicants for admission to the graduate program in psychology must also take the Miller Analogies Test. Applicants to the Jewish Communal Service program must submit the results of either the Graduate Record Examination or the Miller Analogies Test. All other applicants are urged to take the Graduate Record Examination. In order for the results of the Graduate Record Examination to be considered, the applicant should take the examination no later than January preceding the academic year for which application is made. Information concerning the Graduate Record Examination is available from the Educational Testing Service, Princeton, N.J. 08541, or Box 1025, Berkeley, Calif. 94704.

Foreign students, regardless of field of graduate study, are required to take the Test of English as a Foreign Language (TOEFL) unless English is their first language. Applications for admission to the test should be made to TOEFL, Educational Testing Service, Princeton, N.J. 08541, U.S.A. The test is administered at various established centers abroad.

Application

Specific requirements for each graduate program are to be found under the appropriate headings in this catalog. Each applicant should consult these requirements before filing an application. A student may apply to only one graduate department or program. Applicants to the Graduate School should write to the Dean of the Graduate School of Arts and Sciences, stating which program of study he or she wishes to enter. A catalog and appropriate forms will be forwarded to the applicant. The "Application for Admission" should be completed and returned in duplicate as soon as possible. Applicants requesting financial aid must file a GAPS-FAS form. Closing dates for receipt of applications by the several graduate departments are included with the application materials.

Applications for admission for the Spring Term must be filed by December 1. Students are not usually admitted at midyear, and those who do gain admission are not normally eligible for financial aid.

All applicants must arrange to forward, in duplicate, official transcripts of all undergraduate and graduate work. In addition, they must have forwarded, on forms provided by the Graduate School, two letters of recommendation, preferably from professors with whom they have studied in their proposed area of study. Applicants who have engaged in graduate study elsewhere should request at least one of the recommendations from a professor with whom they have done graduate work.

Many departments also require the submission of samples of work as well as the materials described above. Applicants should consult departmental requirements in a later section of this catalog for enumeration of additional materials to be submitted.

All applications must be accompanied by an application fee of \$25, payable by check or money order to Brandeis University. No application will be processed until this fee is paid.

Admission Procedure

All applicants are considered on a competitive basis. The number of students admitted each year in each department is limited so that the Graduate School may operate effectively under its distinctive principles of individualized study and apprenticeship. Consequently, admission may sometimes be denied to qualified persons. Meeting the minimum standards of admission merely qualifies the applicant for a place in the group from which final selections will be made. Selections are based on the applicant's ability to do graduate work of high quality, as shown by: the distinction of his or her previous record, particularly in the proposed area of study; the letters of recommendation submitted in support of the application; and his or her presumed adaptability to the particular graduate programs offered by Brandeis University. In addition, knowledge of foreign languages, relevant practical experience in the field, samples of work, the results of the Graduate Record Examination, and indications of character are considered.

Each application for admission with all supporting records is first examined by the appropriate department or committee. The department or committee recommends to the Dean of the Graduate School which applicants should be selected for admission and for financial aid. The Dean reviews all applications in the light of departmental recommendations, and informs each applicant of the results in April.

Acceptance

A student who has been accepted for admission to the Graduate School will be notified by a letter specifying the date by which he or she must accept the offer of admission and awards, if any. If a student selected for admission indicates that he or she does not intend to accept the offer or fails to reply by the date specified, the admissions offer becomes void and another applicant may be accepted.

Brandeis University subscribes to the "Resolution Regarding Scholars, Fellows, Trainees and Graduate Assistants" of the Council of Graduate Schools in the United States. The resolution states:

"Acceptance of an offer of financial aid (such as a graduate scholarship, fellowship, traineeship, or assistantship) for the next academic year by an actual or prospective graduate student completes an agreement which both student and graduate school expect to honor. In those instances in which the student accepts the offer before April 15 and subsequently desires to withdraw, the student may submit in writing a resignation of the appointment any time through April 15. However, an acceptance given or left in force after April 15 commits the student not to accept another offer without first obtaining a written release from the institution to which a commitment has been made. Similarly, an offer by an institution after April 15 is conditional on presentation by the student of the written release from any previously accepted offer. It is further agreed by the institutions and organizations subscribing to the above Resolution that a copy of this Resolution should accompany every scholarship, fellowship, traineeship, and assistantship offer."

Students who are accepted must provide the Graduate School Office with an official final transcript of their undergraduate record and of any graduate work in process at the time of acceptance. In addition, students who are accepted *are required to complete and return a medical questionnaire and a health insurance form*, which will be sent with notification of acceptance. All acceptances are conditioned on subsequent approval by the University Health Office. All persons admitted to the Graduate School must give evidence of their physical and psychological capacity to carry on their studies.

If, after having been admitted, a student cannot attend, he or she should notify the Dean of the Graduate School as soon as possible. If such students are to be admitted for a subsequent academic year, they must request reactivation of their applications at the appropriate time, and bring them up to date.

Applicants who have been denied admission may reapply in a later year, particularly if they have had further training which would strengthen their applications or if they can submit additional letters of recommendation.

Admission to the Graduate School does not imply that the successful applicant has been accepted as a candidate for a graduate degree. Superior performance at Brandeis University is essential. Admission to candidacy for the M.A. or M.F.A. is granted by the graduate department or committee administering the program of study. Admission to candidacy for the Ph.D. is granted by the Graduate Council on the recommendation of the department or committee administering the program of study.

Readmission

Admission is valid only for one academic year. A student's record is reviewed annually, and he or she may be denied readmission. Students completing the requirements for the M.A. or M.F.A., and students who already hold a master's degree but who have not yet been admitted to candidacy for the doctorate, must make formal application for readmission by the first business day in March. The readmission application must be filed with the Graduate School Office.

Foreign Students

Graduates of foreign colleges and universities who have the equivalent of an American bachelor's degree, and foreign students who have been graduated from American universities may compete for admission and financial assistance at Brandeis, which is authorized under Federal law to enroll nonimmigrant alien students.

In order to ascertain the eligibility of the candidate, Brandeis University requires that each applicant file a *Preliminary Request for Application* form obtained by writing to either the Graduate School of Arts and Sciences or the Office of International Programs any time before September 1 of the year preceding the anticipated admission date. This information will be evaluated and the application form itself will be sent to those who qualify.

Final applications must be completed and returned by February of the year in which the student seeks final admission. Successful applicants will be notified as soon as possible.

Entrance Examinations. All applicants whose major language is not English must take the Test of English as a Foreign Language (TOEFL); thorough competence in English is required for study at Brandeis. All applicants are urged to take the Graduate Record Examination (GRE). They should consult this catalog for the departments which may *require* this exami-

nation. For information concerning the administration of both these examinations, applicants should write to the Educational Testing Service, Princeton, N.J. 08541.

Financial Aid. Financial aid in the form of scholarships, fellowships, teaching assistantships and research assistantships is available to only a few of the most outstanding students. In any case, the total assistance offered usually covers only a small proportion of the student's total annual expense. Hence the student, when applying for admission, should indicate a means of financial support. At least \$3,500 in United States currency is necessary to cover living costs for the nine months academic year, exclusive of expenses for tuition, travel and summer or vacation periods.

Employment. The regulations of the United States Immigration and Naturalization Service limit strictly the amount of paid work that a student from abroad may do. During the summer vacation, the Immigration Service may permit the student to obtain off-campus employment. Such permission cannot be guaranteed, however. Students must petition on special United States government forms, through the Office of International Programs, for permission to accept such employment.

Requirements for the Degree

The following general requirements apply to the awarding of graduate degrees in all areas of study. For specific program requirements students should consult the appropriate section of this catalog.

Master of Arts

In order to qualify for a master's degree, the student must complete the equivalent of one full year of graduate study at Brandeis University, ordinarily computed at a minimum of eight half-courses of approved study. Departments may, at their option, require more than eight half-courses of graduate study. All departments offering master's programs require that the candidate demonstrate a reading knowledge of at least one foreign language and pass satisfactorily a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral, or both. Where a thesis is required for the master's degree, two copies must be submitted to the department chairman in final form no later than the first Friday in January for a February degree or May 1 for a May degree.

The master's degree must be earned within four years from the inception of graduate study at Brandeis University.

Master of Fine Arts

In order to qualify for the degree of Master of Fine Arts in Music, the candidate must complete with distinction twelve half-courses at the graduate level, and must meet the specific requirements for the degree as set forth under the Music Department, *Requirements for the M.F.A. Degree*, in a later section of this catalog. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than the first Friday in January for a February degree or May 1 for a May degree.

In order to qualify for the degree of Master of Fine Arts in Theater Arts, the candidate must complete the equivalent of sixteen half-courses at the graduate level and must meet the specific requirements for the degree outlined under Theater Arts, *Requirements for the*

M.F.A. Degree, in a later section of this catalog. Students enrolled for specialization in dramatic writing must submit two copies of a play in final form in lieu of a thesis.

The Master of Fine Arts degree must be earned within five years from the inception of graduate study at Brandeis University.

Doctor of Philosophy

In order to qualify for the degree of Doctor of Philosophy, a student must ordinarily complete a minimum of three years of graduate study, including two full years of residence and a third year devoted to the preparation of a doctoral dissertation. Under certain conditions credit for advanced standing will be granted for work taken in residence in graduate schools of other universities. Each department or committee reserves the right to require prospective candidates for the degree to perform work in excess of its minimum standards to assure thorough mastery of the area.

Prospective candidates must demonstrate proficiency in at least one foreign language. In all areas of study the student must satisfactorily pass a general or qualifying examination which, at the department's discretion, may be in one or more parts and may be written, oral, or both. In addition, all prospective candidates must write a doctoral dissertation and defend it in a final oral examination.

To be eligible for the Ph.D. degree in any given year, the student must have (1) been admitted to candidacy for the doctorate, (2) completed all residence requirements, and (3) passed all language and qualifying examinations, by the close of the semester preceding the semester in which the degree will be conferred.

Students entering Brandeis University with no previous graduate work must earn the doctorate within eight years from the inception of study. Students who are granted credit for a year of graduate work completed elsewhere must earn the degree within seven years from the inception of their study at Brandeis.

Language Requirements

A reading knowledge of at least one foreign language is required of all students engaged in programs of study leading to the M.A., the M.F.A. in Music and the Ph.D. degrees. Several programs have additional language requirements. Each department or program determines which languages are acceptable as satisfying the foreign language requirements. For specific requirements of each program, consult the appropriate section of this catalog.

Students are expected to satisfy the language requirements as soon as possible. The completion of the language requirements at another university does not exempt the candidate from the Brandeis requirements.

A student who has not passed an examination in at least one foreign language by the end of the first year of study will not be eligible for financial aid from the University for the second year.

Many departments require that language examinations be passed at an earlier time than specified in these provisions. Special requirements will be found in the departmental statements included in this catalog.

Admission to Candidacy

A student who (a) has demonstrated a knowledge and mastery of the subject matter of the field at a level satisfactory to the department or committee; (b) has passed all departmental qualifying examinations; (c) has indicated a capacity for independent research of high quality; and (d) has satisfactorily completed all specific department or committee requirements for admission to candidacy may, at the recommendation of the department or committee, be admitted under the rules of the Graduate Council to candidacy for the degree of Doctor of Philosophy. In order to be eligible for the degree, the student must be admitted to candidacy at least one semester before it is awarded.

Application for Graduate Degrees

Candidates for the M.A., M.F.A., and Ph.D. degrees must file with the Graduate School Office an application for the degree no later than December 1 for a February degree and no later than March 1 for a May degree of the academic year in which the degree is to be conferred. Upon the written recommendation by a candidate's department or committee that the application be approved, the record will be reviewed by the Graduate Council which recommends the student to the University's Board of Trustees for the degree. In case of failure or withdrawal from candidacy in any year, the student must reapply by filing a new application in a later year.

Dissertation and Final Oral Examination

When a student is ready to embark upon the preparation of a doctoral dissertation, a Dissertation Reading Committee of no less than three faculty members, at least one of whom is a tenured member of the faculty, will be appointed by the chairman of the student's department. The student's principal adviser will serve as the chairman of this committee. The Dissertation Reading Committee will guide the research for and preparation of the dissertation. When this committee certifies its approval of the dissertation to both the Dean of the Graduate School and the chairman of the student's department, the latter, with the approval of the Dean of the Graduate School, will appoint a Dissertation Examining Committee to preside over the student's Final Oral Examination and will notify the candidate of the time and place of the Final Oral Examination at least three weeks prior to the scheduled date of the examination. Two copies of the dissertation, as well as an abstract of no more than 600 words, should be submitted to the Dissertation Reading Committee for approval. Style and format of dissertations are determined by the respective departments.

The dissertation, when approved by the readers, must then be deposited in the department office where it will be available for inspection by all interested members of the faculty for at least two weeks prior to the Final Oral Examination.

The Dean of the Graduate School will publish in the *Brandeis University Calendar* the time and place of a candidate's Final Oral Examination and the title of the doctoral dissertation. The Final Oral Examination will be open to any member of the faculty engaged in graduate instruction and to invited faculty members from other institutions.

The Dissertation Examining Committee, recommended by the department chairman and approved by the Dean of the Graduate School, must be composed of a minimum of three faculty examiners, at least one of whom shall be a tenured member of the faculty and one of whom shall be from a graduate department outside the student's own, though preferably from a related area.

The examination may be restricted to a defense of the dissertation, or may cover the whole field of the dissertation. The candidate will be notified by his or her department or committee of responsibility for coverage prior to the examination.

A report, signed by the Dissertation Examining Committee, certifying the candidate's successful performance on the Final Oral Examination, will be submitted to the Dean of the Graduate School.

Deposit and Publication of Dissertation

No later than the dates specified in the current academic calendar for February and May degrees, the candidate must deposit two copies of the finished dissertation, including the original typescript, in a state suitable for microfilm and Xerox publication. Both copies of the dissertation must have the signed approval of the dissertation supervisor and readers. One copy will be retained by the library, the other will be returned to the student, both bound. The candidate must also submit two copies of an abstract of the dissertation, not exceeding 600 words, which has been approved by the dissertation supervisor.

A detailed statement of the Graduate School publication regulations is available from the Graduate School Office. See also the statement in this catalog, under *Fees*, on the Final Doctoral Fee.

Academic Regulations

Registration

Every resident student must register in person at the beginning of each semester, whether attending regular courses of study, carrying on research or independent reading, writing a thesis or dissertation, or utilizing any academic service or facility of the University. Students who have completed their residence requirements and who wish to utilize any academic service or facility of the University must also register.

There is a charge of \$10 if registration is not completed at the time specified in the academic calendar.

Registration consists of payment of all fees for the semester and filing a Registration Card and other duly completed required forms. Program Cards are filed at a later date.

Program of Study

Before filing a Program Card, the student should plan a program of study in consultation with the chairman of the department. All courses for which the student registers for credit must be listed on the Program Card.

Audited courses must also be listed, noted as "audit," and the Program Card must be signed by instructors of such courses.

Graduate students may not normally register for an undergraduate course (numbered below 100) for degree or residence credit unless they secure the signed approval of both the instructor of that course and their department chairman. The student must then petition the Dean of the Graduate School for the desired credit, and must receive approval before or at the time of registration. Credit will not be given for undergraduate courses taken to make up deficiencies in the student's preparation for a graduate program of studies, nor will credit or-

dinarily be given for language courses that are not part of the student's program of studies. Under no circumstances may a student receive credit toward completion of degree or residence requirements for courses undertaken to aid in the completion of language requirements. Scholarship students may not apply their scholarships toward the remission of tuition for undergraduate courses taken to remedy deficiencies. The completed Program Card must be signed by the department chairman before submission at registration, and the department chairman will certify whether the program of study is full-time or part-time and, if part-time, whether one-quarter, one-half, or three-quarters time. Full-year courses must be re-entered at midyear. Students wishing to drop a full-year course at midyear must petition the Dean of the Graduate School for permission, after receiving the written approval of the instructor of the course and of the chairman of their department. Students may not register at midyear for a full-year course without the written approval of the instructor of the course and their department chairman.

Program Cards are filed approximately two weeks after the opening days of instruction (see Academic Calendar for specific date) and are considered to be final.

Auditing Courses

The privilege of auditing courses without fee is extended to all regularly enrolled graduate students except special students. Special students may audit courses by paying for them at the same rate as those taken for credit. No course may be audited without the permission of the instructor. Auditors may not take examinations or expect evaluation from the instructor. No credit is given for an audited course.

Change of Program

Only under unusual circumstances are students allowed to drop courses after filing their Study Cards. To do so, a Course Change Card is obtained from and returned to the Graduate School Registrar. Courses must be dropped no later than one week prior to the beginning of an examination period. Each course dropped is subject to a \$10 fee.

Registration in Terms of Time

Advanced students — those who have completed one full year of residence, either by graduate work at Brandeis or by receiving credit for graduate work done elsewhere — may register in terms of time, subject to the signed approval of their department chairman. Their Program Cards must indicate that they are registering full-time or a specific fraction thereof (one-quarter, one-half, or three-quarters).

Registration in terms of time is a device that helps to individualize programs of study and permits increased freedom for independent research for advanced graduate students. Registration in terms of time frees students to pursue a program of study that partially accepts or bypasses altogether the system of formal courses, although students registering in terms of time will usually register for an advanced research or dissertation course. Their time will be spent in such research and reading as will be most beneficial to their development as scholars.

Absence from Examinations

Students who are absent from a midyear or final examination without an accepted excuse will receive a failing grade for that examination. No students may be excused from such examina-

tion unless for emergency or medical reasons, nor may they be excused if they were able to notify the instructor in advance and failed to do so. Cases involving absence are referred to the chairman of the department who will decide whether a make-up examination shall be allowed, and will notify the Dean of the Graduate School. The examination must be taken within six weeks of the opening of the next semester.

Grades and Course Standards

Graduate students are expected to maintain records of distinction in all courses. Letter grades will be used in all courses in which grading is possible. Courses graded “non-credit” are those which carry no credit but which are required by the student. In thesis or research courses, if a letter grade cannot be given at the end of each semester or academic year, “Credit” or “No Credit” may be used.

“No Credit” and any letter grade below B-minus are unsatisfactory grades in the Graduate School. A course in which the student receives an unsatisfactory grade will not be counted toward graduate credit.

At the end of each academic year the Registrar of the Graduate School will issue to each student a report of grades and of degree requirements satisfactorily completed.

Incompletes

A student who has not completed the research or written work for any course may receive a grade of “Inc.” (incomplete) or a grade of failure at the discretion of the instructor in the course. A student who receives a grade of “Inc.” must satisfactorily complete the work of the course in which the “Inc.” was given in order to receive credit for the course and a letter grade. An “Inc.” unless given by reason of the student’s failure to attend a final examination, must be made up no later than the end of the term following the term in which it was received. When failure to take a final examination has resulted in an “Inc.,” resolution of that grade to a letter grade must occur within six weeks of the beginning of the next semester. If a student requires additional time to settle an incomplete grade, he or she may petition the Dean of the Graduate School for an extension of time, provided the petition is signed by the instructor of the course and by the department chairman. Such a petition must be filed prior to the expiration of the deadline for making up an incomplete.

Credit for Work Done Elsewhere

Graduate level courses taken prior to matriculation at Brandeis University may not be counted toward fulfillment of the residence requirement for the Master of Arts degree, although a department may accept work taken elsewhere in partial fulfillment of specific course requirements for the degree. In that case, additional courses are designated to replace courses from which the student has been exempted.

A maximum of one term of residence credit for graduate level courses taken prior to matriculation may be counted toward fulfillment of the residence requirements for the Master of Fine Arts degree.

Students admitted to Ph.D. programs may file an application to have graduate level courses taken prior to matriculation counted toward fulfillment of residence requirements at this institution. A maximum of one year of residence credit may be granted.

Applicants for transfer credit will not necessarily be granted the credit requested. Each department reserves the right to require of any student work in excess of its minimum standards to assure thorough mastery of the area of study. In all cases, courses being transferred must carry a grade of "B" or better and must have been earned at an appropriately accredited institution.

After completing one term of residence at a full-time rate, or the equivalent at a part-time rate, students eligible to apply for transfer credit may do so. Forms are obtained at the Graduate School Office and are submitted to the student's department for its approval. The form is then forwarded to the Dean of the Graduate School for final approval. The Dean will advise the applicant of any action taken.

Credit for work at another institution taken concurrently with studies in the Graduate School must be approved for potential transfer credit by both the student's department and the Dean of the Graduate School prior to registration for such courses. Such approval is granted only in unusual circumstances. Students who formally cross-register with Boston College, Boston University and/or Tufts University through the Consortium do not need prior approval.

Residence Requirements

Residence requirements for all graduate degrees are computed by determining the amount of registration for credit and the tuition charges. Part-time students and teaching assistants pursuing part-time programs of study for credit complete their residence requirement when their fractional programs (one-quarter, one-half, three-quarters) total the amount required of a full-time student.

Master of Arts

The minimum residence requirement for all students is one academic year on a full-time graduate credit program at the full tuition rate, or the equivalent thereof in part-time study. Transfer credit may not be applied to residence requirements for the Master of Arts degree.

Master of Fine Arts

The minimum residence requirement for all students in Music is three semesters at a full-time rate, at the full tuition rate for each semester, or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

The minimum residence requirement for all students in Theater Arts is four semesters at a full-time rate, at the full tuition rate for each semester, or the equivalent thereof in part-time study. Residence may be reduced by a maximum of one term with approved transfer credit.

Doctor of Philosophy

The minimum residence requirement for all students is two academic years on a full-time graduate credit program for each year, at the full tuition rate for each year, or the equivalent thereof in part-time study. A maximum of one year's approved transfer credit may be granted toward residence for the Ph.D. degree.

Full-Time Resident Students

A full-time student is one who devotes the entire time, during the course of the academic year, to a program of graduate work at Brandeis University, to the exclusion of any occupation or employment. In exceptional cases, however, a student may accept outside employment with the approval of the department chairman.

A full-time program may include a combination of teaching and research assistance, work leading to the fulfillment of degree requirements, such as preparation for qualifying, comprehensive, and final examinations, or supervised reading and research, or the writing of M.A. theses and Ph.D. dissertations, as well as regular course work.

A full-time resident student may take as many courses for credit in any semester as are approved by the department chairman, but no student may receive credit for, or be charged for, more than a full-time program in any semester. Thus the minimum residence requirement for any degree may not be satisfied by an accelerated program of study or by payment of more than the full-time tuition rate in any single academic year.

Ph.D. candidates and students for whom the M.A. and M.F.A. degrees are terminal degrees may continue as full-time students on completion of their residence requirements by registering at the post-residence fee rate (see p. 26).

Part-Time Resident Students

A part-time student is one who devotes less than the entire time to a program of graduate work at Brandeis University. Students may register for a credit program of one-quarter, one-half, or three-quarters time. A part-time student may engage in outside employment with the permission of the department chairman.

Students wishing to pursue part-time residence study leading to a graduate degree must explain in writing, at the time they seek admission, why full-time study is not possible. Students receiving financial aid from the University, who wish to change their status from full-time to part-time residency, must file with the Graduate School Office an explanation of why full-time study is no longer possible.

Post-Resident Students

A graduate student who has completed residence requirements and who registers in order to utilize academic services or University facilities while completing degree requirements is a post-resident student.

Special Students

Properly qualified persons who wish to audit or to take courses without working for a degree will be admitted. Special students are not eligible for University loans, scholarships, fellowships, teaching or research assistantships, nor will they be considered for resident counsellorships. Special students who later wish to change their status to that of part-time or full-time students working for a degree must apply for admission as resident students. They must also file a special petition if they wish credit to be accepted for any courses taken at Brandeis as special students. Credit for such course work may be granted in exceptional cases.

Leave of Absence

Students who have not completed their residence requirements may petition for leave of absence. The petition must have the approval of both the chairman of the department and the Dean of the Graduate School. Leaves of absence up to one year will normally be granted to students in good academic standing who present compelling personal reasons or need to do work off campus in connection with their graduate studies. Time spent on authorized leaves of absence will not be deducted from the maximum time permitted to complete degree requirements.

If for any reason a student must extend a leave of absence, he or she must request such extension in writing before the leave of absence expires. Failure to do so will result in being automatically dropped from the Graduate School roster.

Continuation

Graduate students who have completed residence requirements and who are not registered during the period in which they are completing degree requirements are considered Continuation Students. A student in this category is not eligible for a leave of absence, except for reason of ill health. (See Fees, p. 26).

Withdrawal

A student who wishes to withdraw from the Graduate School at any time before the end of the academic year must give immediate written notice to the department chairman and to the Dean of the Graduate School. Failure to comply may subject the student to dishonorable discharge, refusal of readmission, cancellation of the privilege of securing an official transcript and, in the case of a student withdrawing within 30 days of the beginning of classes, loss of eligibility for partial refund of tuition. Such a student must pay tuition for the full semester. Permission to withdraw will not be granted if the student has not discharged all financial indebtedness to the University or has not made arrangements for subsequent payment to the satisfaction of the controller's office.

Discipline

The disciplinary authority of the University is vested in the President of the University and, subject to his reserved powers, in the Dean of the Graduate School of Arts and Sciences and in the principal administrative officers, including the chairmen of the several graduate programs, in all cases involving graduate students.

Original jurisdiction in any case involving infraction of any rule or regulation or standard of conduct by a graduate student shall lie within the administrative officer of the University who is immediately concerned. Serious cases will be referred for hearing to the Disciplinary Committee of the Faculty Council of the Graduate School of Arts and Sciences, chaired by the Dean of the Graduate School. The chairman of the student's department shall be invited to attend any meeting at which such a case is discussed.

The Graduate Student Council has been invited to elect annually one graduate student from the School of Social Sciences, one student from the School of Science, and one student from the Schools of Creative Arts and Humanities, together to comprise a panel of three, who may form the Graduate School's Committee on Discipline to consider disciplinary cases in-

volving non-academic offenses when the student who is being considered for discipline so requests.

Exclusion, Dismissal or Expulsion

The University reserves the right to dismiss or exclude at any time any student whose character, conduct, academic standing or financial indebtedness it regards as undesirable, through disciplinary procedures established in the Graduate School. Neither the University nor any of its trustees or officers shall be under any liability whatsoever for its disciplinary action, exclusion or dismissal.

The University also reserves the right to revoke, cancel or reduce at any time any financial or honorific award made to any graduate student, for character, conduct, academic standing or financial indebtedness regarded by the University as undesirable; neither the University nor any of its trustees or officers shall be under any liability whatsoever for cancelling, revoking or reducing any award.

Fees and Expenses

Payment of tuition and other fees due on the day of registration is a part of the registration procedure. A student who is not prepared to pay such fees on the day of registration will be refused the privilege of registration.

A student who defaults in the payment of indebtedness to the University shall be subject to suspension, dismissal, and refusal of a transfer of credits or issuance of a transcript.

Such indebtedness includes but is not limited to, delinquency of a borrower in repaying a loan administered by the Student Loan Office, and the inability of that office to collect such a loan because the borrower has discharged the indebtedness through bankruptcy proceedings. If the student is a degree candidate, his or her name will be stricken from the rolls.

A student who has been suspended or dismissed for nonpayment of indebtedness to the University may not be reinstated until such indebtedness is paid in full.

Application Fee: \$25. Payable by all applicants for admission at the time the application for admission is submitted. It is not refundable. Checks and money orders should be made payable to Brandeis University. No application for admission will be processed until this fee is paid. This fee is not required of Brandeis graduates.

Tuition Fee: The fees for tuition in the Graduate School for 1980-81 are as follows:

Full-time resident students: \$5,835 per year, or \$2917.50 per term.

Part-time resident students:

<i>Per Term</i>	<i>Per Year</i>	<i>Fraction Program of Study</i>
\$2,188.13	\$4,376.25	Three-quarters
\$1458.75	\$2,917.50	One-half
\$729.38	\$1,458.75	One-quarter

Special Students: \$730.00 per course per term.

In view of the constantly increasing costs of education, students may expect one or more tuition increases during their academic careers.

Post-Residence Fee: Students who have completed their residence requirements and who wish to continue in residence to utilize any academic service or University facility must register at the usual tuition rates. Graduate students whose tuition is not being paid from scholarship or fellowship funds awarded by the University or other sources may petition the Dean of the Graduate School for a reduction of the post-residence fee to \$725. Students who continue to utilize any academic service or University facility after having completed residence, but who have failed to register, are subject to disciplinary action by the Dean of the Graduate School. A student who is eligible for registration on the post-residence basis may file a program card for full-time study, in terms of courses or in terms of time or any combination thereof, provided the department chairman approves of the program of study as being a full-time program and signs the program card.

Mixed Tuition Fee: In the event that a student needs to register for only a part-time program (one-quarter, one-half, or three-quarters) in order to complete residence requirements, but wishes to register for additional courses or take a fuller program of study, he or she shall be charged for the part-time program needed to complete residence, plus the post-residence fee.

Late Registration Fee: \$10. Payable for failure to complete registration at the time announced by the Graduate School Office.

Change-of-Program Fee: \$10. Payable by any graduate student who wishes to drop a course after filing Study Cards.

Incomplete Record Fee: \$25. Payable for failure to complete administrative requirements by date(s) specified in the Academic Calendar and/or Catalog (e.g., late filing of Health Examination Report, failure to register, etc.).

Continuation Fee: \$20. Payable annually by graduate students who have completed residence requirements and who are not registered during the period in which they are preparing for the completion of degree requirements. Students in this category are not eligible for leaves of absence.

Master's Fee: \$50. A candidate for the M.A. or the M.F.A. who is subject to the Continuation Fee and who earns a degree in any semester following one in which he or she has not been in residence, shall pay the Master's Fee. The fee is chargeable only once.

Final Doctoral Fee: \$250. This fee covers all costs for the year in which the Ph.D. degree will be conferred, including the costs for the microfilm publication of the dissertation, publication of the abstract of the dissertation in *Dissertation Abstracts*, issuance of a Library of Congress number and appropriate library cards, binding two copies of the dissertation, one for use in the University Library, and one Xerox-printed copy in book form for the author. The Final Doctoral Fee also covers the rental expenses for academic robes for graduation and cost of the diploma. Students who have been in residence in their final year may deduct any tuition charges which they may have paid to the University in that final year. Students who have paid the Continuation Fee in the final year may deduct that fee from the Final Doctoral Fee.

NOTE: All candidates for the Ph.D. degree must pay the \$250 Final Doctoral Fee prior to the receipt of their degrees.

Reinstatement Fee: \$10. Payable by a student who, after withdrawal, suspension or dismissal, has been reinstated with the consent of the Dean of the Graduate School.

Transcript Fee: \$2. Students, former students, and graduates who request official transcripts of their records in the Graduate School are charged \$2 for each copy issued after the

first one, which is free. Requests by mail for transcripts must be accompanied by a check in the correct amount, payable to Brandeis University.

Diploma Fee: \$10. Payable by candidates for the M.A. and M.F.A. degrees.

Student Insurance Fee: \$170. Payment of the Insurance Fee entitles the graduate student to participate in the benefits of the Health Insurance Program. The fee is payable at registration and no portion is refundable. Student Insurance is optional for Special Students.

Student Health Fee: \$115. Entitles the graduate student to use of the Health Services.

Dependent Coverage: Although the health services offered at Stoneman Infirmary are not extended to dependents of students, an optional family health insurance plan is available to married students for a fee of \$440. Special Students are not eligible for this plan.

Refunds

The only fee which may be refundable, in part, is the tuition fee. No refund of the tuition fee will be made because of illness, absence or dismissal during the academic year. If a student withdraws, he or she may petition the Dean of the Graduate School for a partial refund of tuition in accordance with the following:

1. Tuition:

Withdrawal: Before the opening day of instruction: 100% of semester tuition. On or before the second Friday following the opening day of instruction: 75% of semester tuition.

On or before the fifth Friday following the opening day of instruction: 50% of semester tuition.

After the fifth Friday following the opening day of instruction: no refund.

2. Scholarships: In the case of a scholarship student who withdraws, the student's account will be credited with the same proportion of the semester scholarship as charged for tuition: 25% if the student leaves on or before the second Friday; 50% on or before the fifth Friday; and, 100% thereafter. The balance of the scholarship will be cancelled.

All refunds are subject to review and final approval of the controller.

Financial Assistance

To help students whose records indicate scholarly promise, the University makes available a variety of awards and work opportunities. No student is eligible for aid without filing with the Graduate School Office a standard financial aid form (GAPSFAS). All scholarships and fellowships are granted for one academic year; therefore, a registered student who holds a scholarship or fellowship must apply annually for a renewal by filing the "Application for Financial Assistance."

All awards are granted and accepted with the understanding that they may be revoked or reduced at any time for undesirable conduct or academic standing.

Ordinarily, no student may hold a fellowship, scholarship, or teaching assistantship for more than two years of study for the M.A. degree, for more than three years of study for the M.F.A. degree, or for more than four years of study for the Ph.D. degree. Ordinarily, no student may receive a scholarship, fellowship, or teaching assistantship after one year of study at

the post residence fee. Priority in making awards is given to full-time students and teaching assistants.

In the case of a student receiving financial aid from Brandeis University, whether in the form of a teaching assistantship, scholarship or fellowship, the approval of the Dean of the Graduate School is required, in addition to the approval of the department chairman, before the student may engage in outside employment.

Scholarships

A scholarship is an award, on grounds of scholarly ability and need, of financial credit that may be used exclusively for remission of tuition fees. Full scholarships and partial scholarships are available. Scholarship students are liable for all but tuition charges.

Fellowships

A fellowship is an academic award of honor to outstanding students of good character to help them in furthering advanced study and research. The amount of the stipend depends on the quality of the student's record and performance; need is also considered in most cases. A fellowship recipient must pay tuition fees unless the award includes a scholarship in an amount covering tuition. No services are required of students for fellowship or scholarship awards.

Teaching Assistantships

Teaching assistants are resident students in the Graduate School who do part-time teaching as part of their training and are paid. The University has established teaching assistantships to enable distinguished graduate students to gain teaching experience while continuing their studies. Teaching assistants are eligible for other awards, including scholarships and fellowships.

A full-time student who is a teaching assistant receives residence credit for, and is charged tuition for, that fraction of the program spent as a student in fulfillment of degree and residence requirements.

First-year graduate students are eligible for appointment as teaching assistants in the sciences. In other areas, however, first-year students are rarely appointed. Foreign students are not normally eligible for appointment as teaching assistants in their first year of graduate work unless they have had training at another American university.

Teaching assistantship appointments are made on the authority of the President of the University by the Dean of the Graduate School who, in turn, acts on the recommendation of a student's department chairman. Appointments are made for periods of one year or one semester, but are renewable. All awards of teaching assistantships to incoming students are conditioned on an interview with a University representative, prior to registration. The University reserves the right to terminate any appointment at any time for due cause. Conduct, character or academic standing that is regarded as undesirable may constitute cause, but the University need not assign any reason for the termination of an appointment at any time. All teaching assistantship appointments are made and accepted with this understanding, and neither the University nor any of its trustees or officers shall be under any liability whatsoever for the summary termination of a teaching assistantship.

Research Assistantships

Research assistantships are available in the science areas. First-year graduate students are not normally eligible for appointment. Application should be made to the chairman of the department or committee administering the graduate program.

Loans

Federally Insured Student Loan Program (FISLP). A student is eligible for a federally insured student loan if he or she meets the following requirements: (1) is accepted for enrollment or is attending Brandeis University and is in good standing as determined by the University; (2) is carrying at least one-half the normal full-time workload; (3) is a citizen and/or national of the United States or is in the United States for other than a temporary purpose; (4) can demonstrate need. An eligible student may be able to borrow up to \$5,000 in any academic year at a 7% interest rate, and does not have to begin a five to ten year repayment until nine months after he or she ceases to be a full-time or half-time student. Special Students are normally ineligible for such loans.

Information and applications for this program are available from banks, savings and loan associations and credit unions.

Students who plan to borrow through one of the participating sources must have on file at the Graduate School Office a current Graduate and Professional Student Financial Aid Service form (GAPSFAS). Forms may be obtained at the Graduate School Office or from the Educational Testing Service, Princeton, N.J.

Resident Counselorships

A limited number of positions is available for both married and unmarried men and women as counselors in the University residence halls. Applications may be obtained from the University Residence Halls Office and should be returned no later than March 15. Appointments are made by the Residence Hall Officer on recommendation of the Dean of the Graduate School on or before May 1.

Office of Student Employment

The Office of Student Employment assists students who need and desire part-time work. Students seeking part-time work should register with the Office of Student Employment. New students are not assigned part-time work prior to arrival on campus.

Endowed Schools

Crown School of Graduate Studies in American Civilization

The Irving and Rose Crown School of Graduate Studies in American Civilization was established by the generosity of Brandeis Fellows Irving and Rose Crown. Its primary objective is to attract and support gifted students in their work toward the Ph.D. in the History of American Civilization.

In order to meet the public service objective of the school, a Crown Fellowship award is occasionally made to special students both here and abroad — drawn from the Foreign Service,

the media, and other important facets of public life — who would benefit from participation in graduate studies in the School.

Strengthened by the achievements of Crown Fellows of recent years, the Crown School contributes to the deeper understanding of the American past and present, thereby helping to shape the nation's future.

Danielsen School of Philosophy, Ethics, and Religious Thought

The Albert V. Danielsen School of Philosophy, Ethics, and Religious Thought was made possible through a gift from Dr. Danielsen, a Fellow of the University, from Wellesley Hills, Mass.

The School includes the Department of Philosophy, which places traditional emphasis on logic, epistemology, metaphysics, value theory and the history of philosophy. Added to the two fully endowed chairs of philosophy in the School is the Albert V. Danielsen Chair in Christian Thought.

The Danielsen School thus hopes to encourage the advancement of philosophical thought in the context of contemporary issues, following the broadest scholarly and interdisciplinary approaches in an age of ecumenism and imperative social need.

Fierman School of Chemistry

The Harold and Minnie Fierman School of Chemistry, created through a benefaction from the late Brandeis Trustee Harold L. Fierman, incorporates graduate and undergraduate programs, including research activities, lecture programs and colloquia.

At the undergraduate level the curriculum is highly diversified, including basic courses in analytical, organic, physical, and inorganic chemistry.

At the graduate level, M.A. and Ph.D. candidates pursue advanced studies and research projects in synthetic organic and organometallic chemistry, physical organic chemistry, structured inorganic chemistry, quantum chemistry, photochemistry, enzyme reactions, chemical physics, and laser chemistry.

The School has been aided, in part, by grants from the National Institutes of Health, National Science Foundation, Energy and Research Development Administration, Research Corporation, and the Petroleum Research Foundation. Research conducted under these agencies has been published in over 700 papers in leading professional journals.

Fisher School of Physics

The Martin Fisher School of Physics, established through a gift from the late Martin A. Fisher of New York City, a Fellow of the University, encompasses both theoretical and experimental physics. The Fisher School incorporates the graduate and undergraduate programs in physics and also provides the setting for lectures and colloquia in physics. Scholarship and fellowship assistance provided by Mr. Fisher enhances the teaching and research at the undergraduate, graduate, and postdoctoral levels.

The School's undergraduate program ranges from introductory courses in classical and modern physics, computer sciences, and astronomy to advanced courses in atomic and nuclear physics; classical, continuum and statistical mechanics; quantum mechanics; nuclear, solid state, and mathematical physics. M.A. and Ph.D. programs include courses in astrophysics, high energy physics, plasma physics, quantum theory of fields, solid state physics, and general relativity. Experimental and theoretical research is carried out in high energy physics,

solid state physics, properties of condensed matter, quantum theory of solids, and quantum field theory.

Grants from such agencies as the National Science Foundation and the Atomic Energy Commission, among others, support research programs in the Fisher School. The Fisher School also provides research opportunities for a large number of postdoctoral fellows.

Kutz School of Biology

The Milton and Hattie Kutz School of Biology was made possible through a gift from the estate of the late Hattie Kutz of Wilmington, Del., a Fellow of the University. The School encompasses the University's undergraduate and graduate biology departments. The biology curricula present a comprehensive body of courses that advance from fundamental studies to more complex areas, with special attention given to new discoveries and the results of current experimentation.

Students are offered a balance between traditional background in biology and the thorough discussion of new knowledge. They are encouraged to engage in original research and independent study. The biology program also provides research and teaching opportunities for a large number of postdoctoral fellows.

A major portion of the governmental, industrial, and private research grants awarded to the University is devoted to varied projects in biology and health sciences. Distinguished scientists appear frequently at colloquia and lectures to explain their investigations.

Lown School of Near Eastern and Judaic Studies

Created through the generosity of the late Brandeis Trustee Emeritus Philip W. Lown, the Lown School of Near Eastern and Judaic Studies encompasses an intensive teaching and research program in ancient and modern Jewish thought, history, culture, and issues, offered by both the undergraduate and graduate departments of Near Eastern and Judaic Studies. The University has assembled an array of distinguished scholars who offer an extremely broad range of programs designed to prepare students for scholarly careers or for communal service. Areas of scholarship within the general field of Near Eastern and Judaic Studies range from the history, languages and philosophies of the ancient Near East to the modern Near East and contemporary Jewish studies.

The School includes the Benjamin S. Hornstein Program in Jewish Communal Service, organized for the purpose of further research and seminars dealing with contemporary issues and for providing graduate education for students interested in professional careers in Jewish communal service and education.

The Lown School of Near Eastern and Judaic Studies cooperates closely with the American Jewish Historical Society, whose headquarters building on the Brandeis University campus was completed during 1968.

The Center for Modern Jewish Studies is also part of the Lown School. Created as the country's first such agency devoted to the study of Jewish life in America today, the Center engages in research and teaching in three related areas: population of American Jewry; Jewish identity; and the Jewish family.

Poses School of Fine Arts

The Poses School of Fine Arts, established through a gift from Brandeis Trustee and Mrs. Jack I. Poses of New York City, embodies the broad undergraduate curriculum in the fine

arts. The undergraduate program in fine arts provides a substantial area of studies in the form and meaning of art from antiquity to the present day. The program stresses individual creativity and the varied techniques of the artist.

Swig School of Political Science

A generous benefaction from Brandeis Trustee Emeritus Benjamin H. Swig of San Francisco has established the Swig School of Political Science. The Swig School encompasses the University's Politics Department, including several endowed academic chairs established earlier through the efforts of Mr. Swig. Among these are: the Harry S. Truman Chair in American Civilization; the Earl Warren Chair in American Constitutional Studies; the Christian A. Herter Chair in International Relations; and the Adlai E. Stevenson Chair in International Politics. Categories of study within the Swig School of Political Science include American Government, Comparative Politics, International Politics and Political Theory and Methods. Bachelor's and Doctoral degree programs are offered, and Doctoral candidates may earn a Master of Arts while pursuing their Ph.D.

Special Scholarships and Fellowships

Dr. Sidney J. Brittner Fellowship Endowment Fund (1978)

Established by the late Pauline Rosenbaum, Las Vegas, Nevada, in memory of her nephew. The income from this endowment provides support for graduate students who are involved in medical research, preferably in the area of cardiac research.

Milton H. and Audrey P. Callner Fellowship Fund in International Affairs (1966)

This fund was established with resources provided by the will of Chicagoan Milton H. Callner, a Fellow of the University, and supplemented with matching funds from the Ford Foundation. Augmented through the generosity of Mrs. Callner, a Fellow of the University, income from the fund is used annually for fellowships in international affairs or politics.

Irving and Rose Crown Fellowships in the History of American Civilization (1969)

Underwritten by the Crown family of Chicago, the Fellowships subsidize graduate students in the field of the History of American Civilization with substantial grants to complete their doctoral studies. Subject to annual review, awards are normally renewable over a period of four years. The Fellowships are designed to attract gifted scholars who plan careers in teaching, research and writing, or in public service and allied areas. Candidates are selected by the executive committee of the graduate program and reviewed by distinguished authorities from other universities. Fellowship awards are made to advanced students with outstanding records in graduate and professional programs, as well as to BA's with honors degrees in history and related fields. Crown supplemental grants in aid of research are also available to Crown Fellows.

Sadie and Joseph Danciger Fellowship Endowment (1967)

This endowment, a bequest of Sadie Danciger of Tucson, Arizona, was established by Harry L. Jacobs, Arthur Mag and the Commerce Bank of Kansas, trustees of the Sadie Danciger Fund. Funds are granted to students in Jewish communal service who are engaged in Jewish community and educational work or in pursuing research.

Samuel C. and Minna L. Dretzin Graduate Fellowships in the Life Sciences (1977)

Established by the late Samuel C. Dretzin, a Brandeis Fellow, and Mrs. Dretzin, of New York City, in honor of Dr. Frederick H. King, the Dretzin Fellowships provide tuition and fellowship support for five students whose work is in areas related to cancer research. Awards are normally made to first and second-year graduate students and are renewable for one year.

Leonard L. Farber Fellowship in Urban and Regional Studies (1967)

Established by friends and business associates of Mr. Farber of Pompano Beach, Florida, this program provides fellowship assistance for graduate study in these fields. It is generously supported by Mr. Farber, who is a Trustee of Brandeis University.

Martin Fisher Endowed Scholarship and Fellowship in Physics (1970)

In conjunction with his gift to underwrite teaching and research in physics, the late Martin A. Fisher, a Fellow of the University, established this student financial aid fund in 1968 to benefit undergraduate and graduate students in physics. Thus far, the endowment of Mr. Fisher has assisted more than 160 students in completing their baccalaureate and doctoral degrees.

Gillette Graduate Teaching Fellowships (1961)

Created by The Gillette Company of Boston, these annual fellowships provide tuition and stipends for doctoral candidates in biology, biophysics, biochemistry, chemistry, or physics. In general, the Fellowships are awarded on the basis of merit to graduate students who plan careers in research at universities or in industry.

Goldwyn Life Sciences Fellowship Endowment (1970)

Established by the Samuel Goldwyn Foundation of Los Angeles, this grant provides support for graduate students studying the life sciences. Preference is given to foreign students who need financial aid in order to study in the United States. Fellowships are renewable annually.

James Gordon Grant for Government Fellowships (1967)

Financial support from the James Gordon Grant for Government, of Chicago, has permitted the Department of Politics to develop a special doctoral dissertation program providing fellowships to selected qualified candidates for the Ph.D. degree in politics. To be eligible, students must have completed their first year of graduate work, either at Brandeis or elsewhere. The fellowship awards are limited to individuals whose dissertations deal with approved topics within the fields of American urban and/or local political problems. Fellowships may be held for one or two years. The support also provides research funds, summer stipends, and travel money for field work or investigation in connection with preparation of the dissertation.

Maurice Gordon Music Fellowship Endowment (1966)

Established through the generosity of Mr. Gordon of Newton, Massachusetts, this endowment provides fellowships for students with preference given to those studying music.

Mary and Abbey Hirschfield Fellowships in the Humanities (1971)

Created through a bequest to Brandeis University from Mary Hirschfield of Chestnut Hill, Mass., the Fellowships offer annual assistance to graduate students in the humanities. Selection of students to receive the Fellowships is made by a special committee of Brandeis University faculty, which determines choices based on academic achievement and financial need. Students eligible for the Fellowships are taken from the areas of classical and Oriental studies, English and American literature, Romance and comparative literature, Germanic and Slavic languages, philosophy and history of ideas, Near Eastern and Judaic studies, and Jewish communal service.

Max Jacoby Fellowship Endowment in Judaic Studies (1967)

Established by Belle Jacoby of New York City, this gift creates a memorial tribute to her husband. The income provides fellowships to graduate students in the field of Judaic studies.

Bernard and Miriam Kessner Fellowships Trust Fund in Biology and Chemistry (1971)

The Kessner Fellowships were underwritten by the late Dr. and Mrs. Bernard H. Kessner of Bay Harbor, Fla., Fellows of the University, to provide annual support to graduate students in the fields of biology and chemistry. The Kessner Fellowships are designed to help students who are planning careers in research and university teaching to complete their doctoral training.

Gustav Klein and Hattie F. Klein Student Aid Fund — Endowed (1978)

Created through the bequests of Mr. and Mrs. Klein of Philadelphia, Pennsylvania, this gift serves the dual purpose of providing loans as well as granting fellowships to graduate students working to obtain the Ph.D. in any area of either basic or applied medical research and sciences.

Rabbi Dr. Zoltan Kohn, Sandor Barna, and Isadore M. and Bertha Gudelsky Fellowship (1977)

Given by Dr. Laszlo N. Tauber, Bethesda, Maryland, in memory of Rabbi Dr. Zoltan Kohn, Sandor Barna and Isadore M. and Bertha Gudelsky. Each year, the fellowship supports gifted students in Near Eastern and Judaic Studies with emphasis on European Jewry and Holocaust Studies and Research.

Andrew Nadas Annual Fellowship in Holocaust Studies and Research (1978)

Given by Dr. Laszlo N. Tauber, Bethesda, Maryland, in memory of his friend and business associate, Andrew Nadas. This graduate fellowship will be awarded on a yearly basis to a gifted student of the Near Eastern and Judaic Studies Department. Emphasis on the history of European Jewry with special consideration given to Holocaust Studies and Research.

Harry and Mildred Remis Scholarship and Fellowship Fund in the Creative Arts (1973)

Established by Brandeis Trustee and Mrs. Harry Remis of Boston, Mass., this endowment offers assistance to students who have demonstrated promise and potential in fine arts and music.

Remis Awards are given to undergraduates at the end of their junior year to facilitate summer study at centers of art and music either in this country or abroad.

The Harry and Mildred Remis Graduate Fellowships in Music are offered to qualified graduate students seeking to pursue careers in musical theory and composition and in the history and literature of music. The Fellowships are normally given to candidates who have completed one year of graduate work, on the basis of demonstrated excellence in academic areas and general musicianship, on creative potential and promise, and on financial need.

Abram L. Sachar International Fellowship Program (1969)

Established by the Trustees of Brandeis University in tribute to the twenty-year incumbency of the University's first president, it is a highly selective program that supports Brandeis graduate and undergraduate students abroad during a period of study or research complementary to their education here.

The program operates on a variety of levels. For example, a graduate student, after passing the qualifying examinations, may pursue advanced research abroad, and a graduating senior may spend a year of study abroad as a culmination of the Brandeis experience. A well-qualified undergraduate who plans a period of study at a foreign university or program which has offerings not available at Brandeis is also eligible for a Sachar grant.

Eligibility requirements for applicants include a high level of scholastic achievement, financial need as indicated by University records and outstanding intellectual competence or creative ability. Application forms are available at the Office of International Programs, Sachar International Center.

Samuel Schulman Graduate Teaching Fellowships (1974)

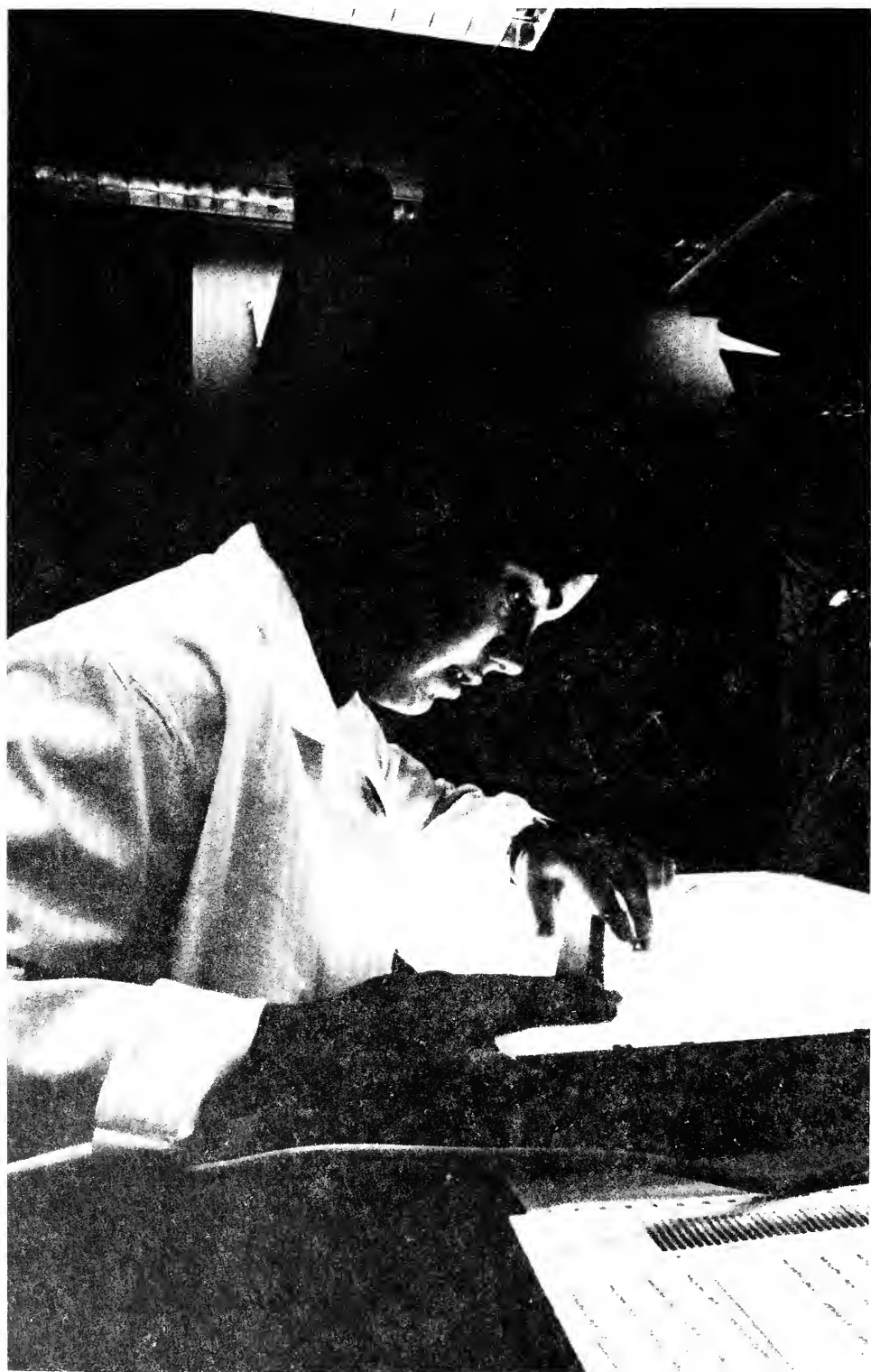
Underwritten by Brandeis Trustee Emeritus Samuel Schulman of Los Angeles, the Fellowships aid outstanding graduate students in any academic field who are engaged in teaching at Brandeis. The program is designed to give valuable supervised classroom teaching experience to students while they pursue their studies, and to support outstanding student-scholars who are committed to work in university teaching and research.

Joseph Schumer Fellowship Endowment Fund (1966)

Provided by a bequest of Mr. Schumer of New York City, this endowment was established by his nephews, Norman Kemper and Richard Schumer, who were co-executors of Mr. Schumer's estate. The income from this fund provides fellowships to needy and gifted students engaged in the study of music.

Suzanne Feld Zalk Memorial Fund Endowment (1980)

Under the terms of the Suzanne Feld Zalk Charitable Trust, Kansas City, Missouri, this endowment will provide support for graduate students who concentrate in psychology and who aspire to pursue careers in this area or related fields. In 1974 a Suzanne Feld Annual Memorial Fellowship was established by her family as a memorial tribute in the same academic concentration.



Areas of Study and Courses — 1980-1981

All courses meet for three hours a week unless the course description indicates otherwise. The presence of "a" in the course number indicates a half course given in the Fall Term; "aA" indicates a full course given in the Fall Term; "b" indicates a half course given in the Spring Term; "bB" indicates a full course given in the Spring Term; "aR" indicates a course given in the Spring Term; "bR," a course given in the Fall Term which is identical with an "a" or "b" course of the same number given in the Fall and Spring Terms respectively; the use of "c" after a course number indicates that the course is given as a half course but meets throughout the year.

The University reserves the right to make any changes in the offerings without prior notice. Faculty and course listings are accurate as of June 1, 1980.

***Course not offered for 1980-81.**

AMERICAN CIVILIZATION

See History of American Civilization (page 87).

ANTHROPOLOGY

Objectives

The graduate program in anthropology, leading to the degree of Doctor of Philosophy, is designed to produce scholars who will broaden our scientific knowledge of culture and society. Admission is limited to students whose primary interests lie within the fields of social and cultural anthropology or archaeology. Most graduates of the program accept appointments at colleges and universities, although a number take employment in government, private institutions or foundations. Intensive training for independent research is stressed, with particular emphasis on comparative studies and fieldwork.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Students need not have an undergraduate major in anthropology or sociology-anthropology. If admitted, however, the student without previous training in anthropology may be required to take additional courses, as determined by the department, to complete his or her residence requirements. Students should have a reading knowledge of one foreign language.

Faculty

Associate Professor Robert C. Hunt, *Chairman*: Social anthropology. Modernization. Irrigation. Mesoamerica.

Professor Helen Codere: Method and theory. Economic anthropology. Primitive art. American Indians. Africa.

Professor George L. Cowgill: Mathematical and computer methods in archaeology. Mesoamerican civilizations. Origins of early states. Population anthropology.

Professor David Kaplan: Economics. Method and theory. Peasant cultures. Middle America.

Professor Robert A. Manners, *Emeritus*: American Indians. Modern cultures. Method and theory. Africa.

Professor Marguerite S. Robinson: Social organization. Rural development. South Asia.

Associate Professor Judith T. Irvine: Ethnography of communication. Linguistics. Social stratification. Africa.

Associate Professor David E. Jacobson: Social anthropology. Urban social organization. Support systems. U.S.A. Africa.

Associate Professor Benson Saler: Comparative religion and folk philosophies. Psychological anthropology. Mesoamerica. South America.

Assistant Professor Marvin Davis: Social and cultural anthropology. Politics. Law. Social stratification. South Asia.

Assistant Professor Judith F. Zeitlin: Cultural ecology. Archaeological method and theory. Cultural resource management. Mesoamerican prehistory and ethnohistory. South American prehistory.

Assistant Professor Robert N. Zeitlin: Sociocultural evolution. Prehistoric exchange. Pre-state societies. Archaeological method and theory. Cultural resource management. Mesoamerica. North America.

Lecturer Pierre-Yves Jacopin: Structuralism. Psychological anthropology. South America. Europe.

Instructor D. Neil Gomberg: Physical anthropology. Comparative anatomy. Primate studies. Human evolution.

Degree Requirements

Master of Arts

Ordinarily students are admitted for the doctoral program only. However, the Master of Arts degree in anthropology will be awarded to those students who have successfully fulfilled the minimum residence requirements set by the Graduate School and have met the following requirements; 1) Of the eight half-courses to be completed satisfactorily, one must be the first segment of the linguistics sequence, and one must be either of the special graduate courses in archaeology or physical anthropology. 2) If the student will not be continuing toward a Ph.D., he or she must also pass an M.A. qualifying examination, must demonstrate reading proficiency in a foreign language, and must submit an acceptable master's thesis (for doctoral students the Specialist Essay, described below, may substitute for the thesis component in the awarding of an M.A.).

Doctor of Philosophy

Program of Study. Flexibility of curriculum enables the student to organize a program of study around his or her particular anthropological interests. At the same time, the doctoral program is structured so that a broad familiarity with other aspects of the discipline is achieved.

At the outset an adviser is assigned each matriculant, but by the end of the second semester of study the student is expected to recruit two members of the faculty for a permanent advisory committee. In soliciting potential committee members, the student should be guided by interest and specialization. Once established, the committee is responsible, through regular meetings and informal consultation, for 1) guiding the student in the selection of suitable courses, 2) providing advice in the formulation of a dissertation research project, and 3) supervising the student's progress through the program.

With respect to formal course requirements, all students not exempted by virtue of previous graduate training must complete the four core courses in social organization and anthropo-

logical theory, a special one-semester seminar in archaeology, another in physical anthropology, and a two-semester course sequence in anthropological linguistics. Students concentrating in archaeology may substitute the one-semester course for the linguistics (Linguistics 102) requirement. Through course work and outside reading it is expected that students will attain a high degree of scholarly competence in at least one culture area and one topical field study.

The department may, at its discretion, grant a student transfer credit for graduate courses completed with a B grade or better at another accredited institution. Requests for transfer credit will not be considered, however, until at least one semester of study has been completed at Brandeis. Prior approval is not needed for courses taken at Boston College, Boston University and Tufts University, for which formal cross-registration arrangements are in effect. In any case, a maximum of one year of residence credit is allowed by the Graduate School for work completed elsewhere.

At the end of sixteen half-courses students take a General Examination which tests for overall mastery of the subject matter. Upon passing the General Examination, work begins on a Specialist Essay, normally focused on theoretical and/or topical issues of relevance to the forthcoming dissertation. The purpose of the Specialist Essay is to demonstrate a capacity for independent research of high quality. By the end of the third year of study, the essay should be complete, language requirements satisfied, and a proposal for dissertation research drawn up.

Language Requirement. A reading knowledge of at least one foreign language must be demonstrated by examination and by the writing of a research paper or dissertation in which sources in the chosen language contribute to the research. The examination part of this requirement must be passed before the student may be admitted to candidacy for the Ph.D.

Summer Training Program. Contingent upon the availability of funding, a program of fieldwork under faculty supervision is carried out during the summer following a student's first year of residence.

Admission to Candidacy. A student is admitted to candidacy for the Ph.D. upon satisfactory completion of 1) sixteen half-courses, including all the required courses, 2) a General Examination in anthropology, 3) the reading examination in a foreign language, and 4) the Specialist Essay.

Dissertation Research. As soon as possible after admission to candidacy, the student should begin at least a full year of research consisting of fieldwork and/or laboratory analysis. In exceptional cases library research may be substituted. This research forms the basis for a doctoral dissertation.

Dissertation and Defense. The department will recommend to the Dean of the Graduate School that a Ph.D. be awarded the candidate upon formal acceptance of a dissertation and after its successful defense in a Final Oral Examination. Details of the regulations for certifying approval of the dissertation and for the Final Oral Examination are found in earlier pages of this catalog.

Courses of Instruction

***ANTHROPOLOGY 100a. The Family in the Political Economy of Latin America**

***ANTHROPOLOGY 102a. Anthropological Linguistics I**

***ANTHROPOLOGY 103b. Language, Society and Culture**

ANTHROPOLOGY 104a. Hesiod's *Works and Days*: Convergent Approaches of Classics and Anthropology

With the *Theogony*, Hesiod's *Works and Days* is the first significant mythological text from ancient Greece. Probably composed between the 12th and 7th centuries B.C., it has been transmitted throughout the subsequent history of Western civilization; however it seems to us as strange as any collection of lore from an exotic society. Using the convergent approaches of classics and modern anthropology, we will try to restore the text to its environment; social circumstances of performance of the lore and the world-view it expresses.

This course is a sequel to the course taught last year on the *Theogony* without presupposing it.
Messrs. Jacopin and Mueller

***ANTHROPOLOGY 104b. Hesoid's *Theogony*: Convergent Approaches of Classics and Anthropology**

ANTHROPOLOGY 105a. Symbol, Myth and Ritual

This course is divided into three parts: first we start with an examination of the relation between symbolism, world view, understanding, meaning and knowledge. Second, offering a critique of the structuralist approach, we study the social function of mythology. Third, comparing two or three selected societies, we integrate myth and symbols in their ritual contexts.
Mr. Jacopin

ANTHROPOLOGY 106b. Friendship

An interdisciplinary examination of friendship, viewed in its psychological, cultural, and social context. Topics will include the definition of "friendship" in different settings, the development of individual friendships, the functions of friendship for individuals and social groups, friendships through the life-span, and the organization of friendships in social networks. Attention will be given to the range of theories, methods and data that psychologists, sociologists and anthropologists use in their studies of social interaction and relationships.
Messrs. Jacobson and Rubin

ANTHROPOLOGY 109b. Archaeological Methods

Basic procedures for the design and implementation of archaeological research. Topics to be covered include: field methods for survey, sampling, site mapping and excavation; techniques of identification, classification, dating and preservation of archaeological materials; principles for interpreting the significance of ancient remains. Weather permitting, several work sessions at a nearby archaeological site will provide some actual field experience.
Mr. Zeitlin

ANTHROPOLOGY 110b. Introduction to Human Evolution

An introduction to the study of the fossil evidence for human evolution. Lectures and informal labs will focus on a variety of topics, including how fossils are studied in general in reconstructing the past, the structure of the human skeleton, and the different interpretations of the meaning of specific fossils of early man from Africa, Europe and Asia.
Mr. Gomberg

ANTHROPOLOGY 111a. Introduction to Primate Studies

An introduction to the study of non-human primates, paying special attention to studies of primates in their natural habitat. Topics focus primarily on the relationships of elements of an animal's feeding, social/maintenance and locomotor behavior to selected aspects of its environment.
Mr. Gomberg

***ANTHROPOLOGY 112b. Evolution and Natural Selection**

ANTHROPOLOGY 113a. Human Variation

An introduction to human biological variation. Differences between individuals and populations within the human species in biological characteristics (body build, blood groups, skin color) will be analyzed using an adaptive approach. The utility of the racial model to understanding human variation will be evaluated and compared to that of other approaches. Several politically and socially controversial topics relating to human variation (race and IQ, sociobiology) will be discussed late in the semester. *Mr. Gomberg*

ANTHROPOLOGY 115aR. Biocultural Adaptation

An advanced course dealing with human adaptation with particular emphasis on the interaction of elements of the biological and cultural adaptive systems in human societies.

Mr. Gomberg

ANTHROPOLOGY 120b. The Anthropology of Law

A comparative study of the relationship between law, society and culture, including the socio-cultural contexts in which various types of legal institutions, procedures, rules and concepts are found and the relationship between law and change.

Mr. Davis

ANTHROPOLOGY 122a. The World Before Civilization

An evolutionary examination of human societies prior to the development of urbanism, civilization, and the political state. Selected prehistoric hunting and gathering, pastoral and horticultural peoples will be studied in cross-cultural perspective with emphasis on subsistence technology, economy, social organization and political integration.

Mr. Zeitlin

ANTHROPOLOGY 123a. Directions and Issues in Archaeology

An examination of concepts involved in the archaeological study of prehistoric societies. Selected cases will be discussed as illustrations of major theoretical and methodological issues.

Mr. Zeitlin

***ANTHROPOLOGY 124a. Civilizations of Mesoamerica**

***ANTHROPOLOGY 126a. Kinship**

***ANTHROPOLOGY 129b. The Evolution of Culture and Society**

***ANTHROPOLOGY 130. The Archaeology of Syria-Palestine**

ANTHROPOLOGY 131. The Archaeology of Anatolia

See Classical and Oriental Studies 122.

Mr. Todd

***ANTHROPOLOGY 133a. Modern Africa**

ANTHROPOLOGY 133b. Anthropological Fieldwork

An introduction to the theory and practice of fieldwork. The course will include discussion of classic and contemporary accounts of doing ethnographic research. Students will conduct supervised fieldwork in Waltham, Cambridge, Boston or other local areas, with the aim of producing an ethnographic case study.

Mr. Jacobson

ANTHROPOLOGY 134. The Archaeology of Mesopotamia and Iran

See Classical and Oriental Studies 117.

Mr. Todd

ANTHROPOLOGY 135b. Peoples and Cultures of India

An introduction to patterns of thought and action in rural India, with special emphasis on Hindu communities. *Mr. Davis*

***ANTHROPOLOGY 139b. Biography and Culture**

***ANTHROPOLOGY 140a. Prehistory of North American Indians**

***ANTHROPOLOGY 141b. The American Indian**

***ANTHROPOLOGY 143b. Modern Culture of Middle America**

***ANTHROPOLOGY 144a. Indians of South America**

ANTHROPOLOGY 146a. Environment and Archaeology

An examination of principles and analytical techniques from ecology and geology which are applicable to archaeological interpretation. *Ms. Zeitlin*

ANTHROPOLOGY 147b. Archaeology and Ethnohistory of Mesoamerica

Intensive study of Mesoamerican civilizations. *Mr. Cowgill*

ANTHROPOLOGY 148a. Rise, Function and Fall of Early Civilizations: Concepts and Explanations

Regularities in the ways large scale non-modern societies work — and what fails to work. Why did large scale societies develop at all? What uniformities and what variations are exhibited by different instances? Why and how did they collapse? Ethnographic and historical data and leading anthropological theories will be reviewed, as well as archaeological evidence from Mesoamerica, Mesopotamia, China, Egypt and Peru. *Mr. Cowgill*

***ANTHROPOLOGY 149. The Archaeology of the Aegean**

ANTHROPOLOGY 151a. Social Organization I

Theories of social organization, the interrelations of social institutions, current anthropological methods of interpretation and analysis. *Mr. Jacobson*

ANTHROPOLOGY 151b. Social Organization II

A continuation of 151a. This course will emphasize structural analysis. Designed primarily for advanced undergraduate and graduate students.

Permission of instructor required. *Mr. Jacopin*

ANTHROPOLOGY 152b. Economic Anthropology

Issues in the study of comparative economics with emphasis on non-industrial societies. *Mr. Kaplan*

***ANTHROPOLOGY 153a. Primitive Art**

ANTHROPOLOGY 153bR. Ethnomusicology

See Music 180bR. *Mr. Ashenafi*

ANTHROPOLOGY 154a. Comparative Religion

An exploration of world view and ritual both in "world" or "historical" faiths (such as Buddhism and Islam) and in so-called "primitive" societies with reference to theories concerning the origins and functions of religion. *Mr. Saler*

ANTHROPOLOGY 154b. Selected Topics in Comparative Religion

Seminar on the Supernatural: An exploration of concepts of the "supernatural" found in Western cultural traditions and a critical consideration of the utility of such concepts for the cross-cultural study of religion.

Mr. Saler

ANTHROPOLOGY 155b. Psychological Anthropology

An examination of the relationships between sociocultural systems and individual psychological processes with a critical evaluation of selected theories and studies bearing on them.

Mr. Saler

***ANTHROPOLOGY 156a. Political Anthropology**

ANTHROPOLOGY 158a. Urban Anthropology

Comparative study of strategies used in coping with the complexity and potential danger of urban life. Attention will also be given to analyzing and evaluating the theories, methods and data anthropologists and others use in their studies of urban social organization.

Mr. Jacobson

***ANTHROPOLOGY 158b. Selected Topics in Urban Anthropology**

***ANTHROPOLOGY 161b. Culture and Cognition**

***ANTHROPOLOGY 162a. Anthropology and Psychoanalysis**

***ANTHROPOLOGY 165a. Modernization and Social Change**

ANTHROPOLOGY 166a. The Nature of Human Nature

This course will deal with various theories of human nature and the evidence for such theories. It will explore the way in which theories of the nature of man have figured in interpretations of culture. The course addresses the question: to what extent is culture the expression of nature and to what extent does it depart from nature?

Mr. Kaplan

***ANTHROPOLOGY 170a. Peasant Cultures: Past and Present**

***ANTHROPOLOGY 171a. The Comparative Method**

ANTHROPOLOGY 175a. Pro-Seminar in Anthropological Theory: I

Analysis of representative classics in anthropology.

Mr. Hunt

ANTHROPOLOGY 175b. Pro-Seminar in Method in Cultural Anthropology: II

The development of anthropological theory, major present-day trends and their relation to problems of research.

Mr. Kaplan

***ANTHROPOLOGY 177b. Archaeological Method and Theory**

***ANTHROPOLOGY 180b. Historical Anthropology**

***ANTHROPOLOGY 185a. Mathematical and Computer Methods in Archaeology**

***ANTHROPOLOGY 186a. Mathematics and Computers in Archaeological Data Analysis I**

***ANTHROPOLOGY 186b. Mathematics and Computers in Archaeological Data Analysis II**

ANTHROPOLOGY 188. Materials in Ancient Societies

A full year seminar-laboratory course whose theme is the role of different materials and technologies in the development of ancient societies; a major focus is on the way in which scientific analysis of archaeological objects can contribute to the interpretation of cultures in which they were made. Subject varies each year. Topic in 1980-81: Biological materials in pre-history.

Prerequisite: Permission of instructor.

Ms. J. Zeitlin

Taught in conjunction with Professors Kaplan (UMass-Boston), Meadow (Harvard), Wetterstrom (MIT), Kelso (Boston University).

ANTHROPOLOGY 190a. Comparative Social Stratification**ANTHROPOLOGY 193b. Research Design****Primarily for Graduate Students*****ANTHROPOLOGY 210a. Seminar on Conflict Resolution in Peasant Societies*****ANTHROPOLOGY 210b. Special Topics in Anthropological Analysis**

ANTHROPOLOGY 226a and b. Readings and Research in Archaeology *Staff*

ANTHROPOLOGY 227a and b. Readings and Research in Linguistics *Ms. Irvine*

ANTHROPOLOGY 228a and b. Advanced Readings in Method and Theory *Mr. Kaplan*

ANTHROPOLOGY 229a and b. Guided Comparative and Historical Research *Mr. Hunt*

ANTHROPOLOGY 230a and b. Readings and Research on Culture of Hunters and Gatherers *Mr. Jacopin*

ANTHROPOLOGY 231a and b. Readings in Cognitive Culture *Mr. Saler*

ANTHROPOLOGY 232a and b. Readings in Law *Mr. Davis*

ANTHROPOLOGY 233a and b. Readings in Kinship *Mr. Jacopin*

ANTHROPOLOGY 235a and b. Readings and Research in Latin American Cultures *Mr. Hunt*

ANTHROPOLOGY 236a and b. Readings and Research on East and South Asia *Ms. Robinson*

ANTHROPOLOGY 237a and b. Readings and Research in African Cultures *Mr. Jacobson*

ANTHROPOLOGY 238a and b. Readings and Research in Urban Anthropology *Mr. Jacobson*

ANTHROPOLOGY 239a and b. Readings and Research in North American Indian Cultures *Staff*

ANTHROPOLOGY 240a. Readings and Research in Medical Anthropology *Mr. Jacobson*

ANTHROPOLOGY 245a and b. Readings and Research in Physical Anthropology *Mr. Gomberg*

***ANTHROPOLOGY 253a. Readings in Economic Anthropology**

ANTHROPOLOGY 302. Summer Research Training

Field work for three months during the summer under the supervision of a member of the staff. *Staff*

ANTHROPOLOGY 304a and b. Readings and Research in Archaeological Field Methods*Staff***ANTHROPOLOGY 305. Anthropology Colloquium***Staff***ANTHROPOLOGY 400-412. Dissertation Research**

Independent research for the Ph.D. degree

400. Ms. Codere

404. Mr. Gomberg

409. Mr. Saler

401. Mr. Cowgill

405. Ms. Irvine

410. Mr. Davis

402. Mr. Jacobson

407. Mr. Kaplan

411. Ms. J. Zeitlin

403. Mr. Hunt

408. Ms. Robinson

412. Mr. R. Zeitlin

BIOCHEMISTRY**Objectives**

The graduate program in biochemistry leading to the degree of Doctor of Philosophy is designed to equip students with a broad understanding of the chemistry involved in biological processes and to train them to carry out independent original research. Although students will be primarily responsible for a comprehensive understanding of biochemical phenomena, they will be encouraged to acquaint themselves with the disciplines of biology and chemistry. Research and experimental projects rather than formal course training will be emphasized. The student will, however, be required to take courses in advanced biochemistry, organic chemistry, physical biochemistry, biochemical techniques, molecular biology and biochemistry seminars. The choice of advanced biochemistry courses and those of other scientific disciplines (i.e., organic chemistry, genetics, embryology, etc.) are subject to the student's particular interests. The choice of research programs should be in areas under investigation by the faculty; some of these fields include metabolic regulation in normal and also tumor tissues, enzymology, immunochemistry, molecular biology, molecular pharmacology, biochemical genetics, bacterial and phage genetics, physical chemistry of macromolecules, protein chemistry, plant and virus metabolism, problems in growth and differentiation, microbial metabolism, organic biochemistry, membrane transport and energy coupling mechanisms, application of NMR to biochemical problems, biochemistry of muscle, and chromosome structure.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply here. Applicants for admission to the Biochemistry Department are also required to take the Graduate Record Examination. It is strongly suggested that the applicant take one of the advanced sections (preferably chemistry or biology) of this examination. The student's undergraduate curriculum should include some fundamental courses in biology and chemistry which will be subject to final staff approval.

Faculty

Professor Robert H. Abeles, *Chairman*: Mechanism of enzyme action, with particular reference to the mechanism of action of reactions involving derivatives of Vitamin B-12 and the mechanism of isomerizations. Design of highly specific enzyme inactivators.

Professor Gerald D. Fasman: Conformation of biological macromolecules. Chromatin structure, protein-DNA interactions. Protein models; synthesis and conformational studies of polyamino acids.

Professor David M. Freifelder: Structure and function of DNA. Bacterial and phage genetics. Lysogeny.

Professor William P. Jencks: Mechanisms of reactions catalyzed by enzymes, coenzymes, and by chemical catalysts. Effects of salt and denaturing agents on proteins. Mechanisms, catalysis and equilibria of reactions of "energy-rich" compounds of importance in biochemistry and chemistry.

Professor Lawrence Levine: Immunochemistry. Antibodies as analytical reagents for measuring antigen conformation and pharmacologically important molecules.

Professor John M. Lowenstein: Metabolic regulation of carbohydrate utilization and fat synthesis. The interaction of metabolic pathways. Regulation and function of the purine nucleotide cycle; regulation of adenosine production in heart.

Professor Susan Lowey: Structure and function of myofibrillar proteins and their relation to the muscle cell. Techniques will include physical chemistry, protein chemistry, fluorescence and electron microscopy.

Professor Alfred G. Redfield: Magnetic resonance in biopolymers. Physical biochemistry.

Professor Serge N. Timasheff: Physical chemistry of proteins, in particular, structure in solution and self-associations; self-assembling systems; ligand-mediated interactions; macromolecular properties of biological polymers.

Professor Helen Van Vunakis: Interaction of hallucinogenic, narcotic and carcinogenic compounds with specific antibodies and natural receptors. Protein structure. Photodynamic action of dyes on nucleic acids.

Associate Professor Thomas C. Hollocher, Jr.: Role and mechanism of action of oxidation-reduction enzymes. Mechanism of denitrification. Biochemical aspects of environmental problems.

Associate Professor William T. Murakami: Biochemistry of virus infection. Metabolism of virus-infected cells. Purification and characterization of animal viruses.

Associate Professor Robert F. Schleif: Molecular biology. Mechanism of regulation in bacteria and their viruses.

Assistant Professor Vivian Ernst: Mechanism and regulation of eukaryotic protein synthesis.

Assistant Professor Christopher Miller: Cellular physiology and biophysics. Membrane transport and mechanisms of electrical excitation.

Assistant Professor Pieter Wensink: Molecular biology. Gene expression during development of higher organisms. The physical arrangement of genes within the DNA and the chromosomes of higher organisms.

Degree Requirements

Doctor of Philosophy

Program of Study. Each doctoral candidate must satisfactorily complete the following fundamental courses: advanced biochemistry, biochemical techniques, physical biochemistry and biochemical research problems, and four of the biochemistry seminars.

Language Requirement. A reading knowledge of German is required. This language requirement must be completed satisfactorily prior to the oral qualifying examination.

Qualifying Examinations. An oral qualifying examination must be taken generally at the beginning of the second year. In this examination, the student will be asked to defend or refute two propositions. One proposition will be assigned in an area of research outside the student's immediate area of specialization, and one will be an original proposition put forth by the student for a research problem in his or her area of interest (this is not necessarily a problem upon which he or she will carry out research).

In addition, the student will have an opportunity to demonstrate general knowledge of biochemistry in a series of three area examinations: physical biochemistry and macromolecules, metabolism and enzymology, and molecular biology. Students are expected to have taken three examinations by the end of the third year; two of these must be taken by the end of the second year. This general knowledge outside the student's own field of specialization must be demonstrated to the satisfaction of an advisory committee of four Department faculty members.

At this time it will be decided whether a student will continue working towards the Ph.D. degree or a Master of Arts degree.

Admission to Candidacy. At some time before the second semester of their third year, students will present to a committee of four members of the Department a summary of their research accomplished to date, including the most significant experimental data and detailed plans for the completion of a research project. The committee will recommend whether the research project should be continued as a partial fulfillment of the requirements for the Doctor of Philosophy degree. After completion of the research report and the three area examinations at a level satisfactory for the Ph.D. degree, the student will be admitted to candidacy.

Dissertation and Defense. A dissertation will be required which summarizes the results of an original investigation of an approved subject and which demonstrates the competence of the candidate in independent research.

Courses of Instruction

BIOCHEMISTRY 100a. Introduction to Biochemistry

Chemistry, reactions and metabolism of biologically important compounds. Formation and utilization of "energy-rich" compounds. Introduction to enzyme mechanisms. An attempt will be made to interrelate and compare basic biochemical and chemical processes. Metabolic regulation.

Prerequisite: Chemistry 25a and b

Section 1: *Mr. Hollocher*

Section 2: *Messrs. Fasman and Murakami*

BIOCHEMISTRY 100aR. Introductory Biochemistry

See Biochemistry 100a.

Mr. Lowenstein

BIOCHEMISTRY 101a and b. Advanced Biochemistry

A discussion of enzyme reactions including energetics, kinetics, and reaction mechanism. Metabolism of carbohydrates, lipids, amino acids, nucleic acids, vitamins and coenzymes, hormones and inorganic substances. Coupled enzyme reactions, such as oxidative phosphorylation, and the synthesis of macromolecules such as glycogen, protein and the nucleic acids. Regulated enzymes and the regulation of metabolism.

Prerequisites: Chemistry 25a and b, Biochemistry 100a or their equivalent.

Mr. Abeles and Staff

BIOCHEMISTRY 103a. Advanced Molecular Biology

The fundamental principles of molecular biology will be stressed with respect to nucleic acid biosynthesis, structure, and physiological involvement. In addition, a description of events dealing with control of genetic information will be outlined. *Mr. Schleif*

BIOCHEMISTRY 104b. Introduction to Physical Biochemistry

Discussion of physical methods; molecular weight measurements; polyelectrolyte properties; thermodynamics of macromolecular interactions; solvent effects; principles of folding; structural and conformational analyses by various spectroscopic and X-ray techniques. *Mr. Timasheff and Staff*

BIOCHEMISTRY 200. Biochemistry Techniques

Prerequisite: Biochemistry 101. May be taken concurrently. *Mr. Miller and Staff*

Seminars

One or two seminars will be given each semester. Each student will present an oral and written report on one aspect of the following topics:

BIOCHEMISTRY 213a. Transfer RNA and Related Topics

Mr. Redfield

BIOCHEMISTRY 214a. Muscle and Non-Muscle Motility

Ms. Lowey

BIOCHEMISTRY 218b. Arachidonic Acid Metabolism: Biochemistry and Pharmacology

Mr. Levine

BIOCHEMISTRY 219b. Mechanism of Enzyme Action

Messrs. Abeles and Jencks

BIOCHEMISTRY 401-418. Biochemical Research Problems

Independent research for the Ph.D. degree.

401. *Mr. Jencks*

408. *Mr. Wensink*

414. *Mr. Murakami*

402. *Mr. Levine*

409. *Ms. Lowey*

415. *Mr. Schleif*

404. *Mr. Timasheff*

411. *Ms. Van Vunakis*

416. *Mr. Redfield*

405. *Mr. Abeles*

412. *Mr. Freifelder*

417. *Ms. Ernst*

406. *Mr. Fasman*

413. *Mr. Hollocher*

418. *Mr. Miller*

407. *Mr. Lowenstein*

Journal Club, Colloquia, and Research Clubs

In addition to the formal courses announced above, all graduate students are encouraged to participate in the Department's Journal Club and colloquia. The Journal Club is an informal meeting of the students, staff and post-doctoral fellows, at which recent publications are discussed. Colloquia are general meetings of the Department in which both speakers from the Department and guest speakers will present their current investigations. Research clubs are organized by various research groups of the Department.

BIOLOGY

Objectives

The graduate program in biology is designed to give students an understanding of the fundamental nature of living processes, and to train them to undertake original research.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The student's undergraduate record should ordinarily include courses equivalent to those required of undergraduates concentrating in biology at this institution. These are: general biology, genetics, cell physiology, developmental biology, and at least two additional elective courses. Students who are deficient in some of these subjects, but whose records are otherwise superior, may make up their deficiencies while they are enrolled as graduate students. In exceptional cases, students may be excused from some of these requirements. Students with serious deficiencies must, however, expect to add additional time to their graduate program in order to satisfy the deficiencies.

It is strongly recommended that applicants take the Graduate Record Examination.

On being admitted to the Biology Department, graduate students will report to the temporary graduate student adviser who will assist the student with formal entry into the department and later with their programs.

An important part of graduate training consists of laboratory experience. Since the summer months provide an opportunity for such work, unbroken by courses and other responsibilities, it is customary for graduate students to spend their summers doing research. In recognition of this, the Biology Department provides summer stipends for its full-time graduate students.

Faculty

Associate Professor Attila O. Klein, *Chairman*: Regulation of development in higher plants by light. Control of growth, organelle development and macromolecular synthesis in the leaf.

Professor Carolyn Cohen (Rosenstiel Center): Structure and function of protein assemblies in cells. X-ray diffraction and electron microscopy applied to muscle contraction, cell division and blood coagulation.

Professor David J. DeRosier (Rosenstiel Center): Structural molecular biology. X-ray crystallography.

Professor Herman T. Epstein: Developmental changes in the brain in relation to learning in man and mouse.

Professor Chandler M. Fulton: Cell differentiation and selective gene expression in eucaryotic cells. Morphogenesis of cell shape and of cell organelles, especially flagella.

Professor Martin Gibbs (Photobiology Institute): Photosynthesis and plant physiology.

Professor Harlyn O. Halvorson (Director, Rosenstiel Center): Developmental changes in microorganisms. Control of macromolecular synthesis during the cell cycle and during sporulation in bacillus.

Professor Albert Kelner (Photobiology Institute): Genetics. Microbial genetics. Radiation biology.

Professor Alfred Nisonoff (Rosenstiel Center): Immunochemistry. Genetic control of the immune response.

Professor Jerome A. Schiff (Director, Photobiology Institute): Plant biochemistry and physiology. Photocontrol of intracellular development. Sulphur metabolism.

Professor Andrew G. Szent-Gyorgyi: Mechanism of muscle contraction. Regulation of contractile proteins in both primitive and more advanced animals.

Associate Professor James E. Haber (Rosenstiel Center): Control of meiosis sporulation-specific events in the yeast *Saccharomyces cerevisiae*. Genetic and biochemical studies of macromolecular synthesis, especially during development.

Associate Professor Jeffrey C. Hall: Genetic and histochemical mosaic analysis of behavior mutants of *Drosophila melanogaster*.

Associate Professor John E. Lisman: Mechanisms of excitation and adaptation in photoreceptors.

Associate Professor Michael Rosbash (Rosenstiel Center): Gene organization in eucaryotes. Macromolecular synthesis during oogenesis.

Assistant Professor L. Edward Cannon (Rosenstiel Center): Structure and genetic control of antibodies. Primary structure and function of proteins.

Assistant Professor Kathleen M. Karrer: Molecular analysis of germ line development.

Assistant Professor Eve E. Marder: Neurotransmitter-Receptor Interactions, using a combination of physiological, pharmacological and biochemical approaches.

Assistant Professor Joan L. Press (Rosenstiel Center): Developmental immunology.

Assistant Professor Robert D. Stout (Rosenstiel Center): Cellular immunology.

Adjunct Assistant Professor Judith E. Tsipis: Virology.

Assistant Professor Lawrence J. Wangh: Control of gene activity, purification of estrogen receptors and Vitellogenin synthesis.

Assistant Professor Kalpana P. White: Developmental neurobiology.

Adjunct Assistant Professor Gordon J. Hankinson, D.V.D.: Laboratory animal pathology.

Degree Requirements

At least one year of teaching experience (or equivalent) is required of all degree candidates.

Master of Arts

The goal of the Biology Department is to train students in original research on the level of the Ph.D. Only rarely do we accept candidates for a master's degree.

Program of Study. The program leading to the M.A. degree in Biology requires course work and a research thesis. The student's program will be set up by the Graduate Committee of the department. The candidate must complete the equivalent of one full year of graduate study at Brandeis University, normally computed at a minimum of eight half-courses of approved study which include research courses. The candidate must pass the prescribed courses and submit an acceptable thesis.

Language requirement. All candidates are required to demonstrate a reading knowledge of French, German, or another foreign language acceptable to the department. An examination demonstrating reading ability in the foreign language must be taken prior to the completion of thesis work.

Doctor of Philosophy

Program of Study. All students will be expected to obtain a knowledge of the principles and techniques of the five areas represented in the department, i.e., genetics, developmental biology, neurobiology, immunology and cell biology, before taking the qualifying examination. The background a student is expected to have in these areas will be covered in courses given

by the department. Entering students will be encouraged to do research rotations in at least two different laboratories. The student will be expected also to have additional background in his or her area of specialization as well as experience in seminar and research courses to be designated.

Each student will choose his or her specific field of interest and will apply for a permanent adviser to be agreed upon by the department before the end of the second year. The adviser will assist the student in planning a well-balanced program in his or her specific field of interest. In addition, the adviser will ordinarily serve as the chairman of the student's dissertation examining committee.

Language requirement. A reading knowledge of French, German, or another language acceptable to the department, is required. This requirement must be met before the student completes the first year of graduate study.

Qualifying Examination. Ordinarily this examination is taken in the middle of the second year of study. Subsequent to the written portion of the examination, a proposition committee is formed and the student must submit and defend two propositions from two areas. The student will be examined orally on the two propositions by the three members of the proposition committee.

Admission to Candidacy. To be admitted to candidacy, the student must have (a) passed the foreign language examination, (b) passed the qualifying examination, (c) been accepted by a graduate adviser.

Dissertation and Defense. Each student will conduct an original investigation. With the approval of the student's adviser, however, research courses may be elected at any time. After submission of the dissertation, the candidate will be expected to present the principal results of his or her work and its significance during an examination in defense of the dissertation.

Courses of Instruction

BIOLOGY 100a and b. Photobiology

See Photobiology 100a and b.

Messrs. Gibbs, Kelner and Schiff

BIOLOGY 102b. Structural Biology

An introduction to the physical concepts underlying cell architecture and function. The first part of the course covers essential background including symmetry and assembly, methods of image formation (light and electron microscopy and X-ray diffraction), and protein structure. Biological systems then discussed will be protein assemblies governing cell form and division, muscle filaments and movement, membranes and chromatin. This course is designed for juniors and seniors majoring in the sciences and for first year graduate students.

Ms. Cohen

BIOLOGY 121a. Advanced Genetics

A deeper and more detailed discussion of topics introduced in Biology 21. Two basic approaches will be emphasized: cytogenetics and molecular genetics. Problems currently under investigation will be discussed.

Prerequisite: Biology 21 and 31.

Mr. Haber

BIOLOGY 135b. Biological Rhythms

A lecture/seminar course that deals with physiological timing systems: properties of biological clocks, organismic (multicellular) expressions of circadian timekeeping, the oscillator model of timing, a review of periodicities in protists, plants and animals.

Enrollment limited to 20.

Mr. Klein

BIOLOGY 142a. Neurobiology

The course is designed as an introduction to the field of neurobiology. Original papers and a textbook will provide readings. Topics to be covered will include membrane electrophysiology, synaptic transmission, sensory processing, generation of motor patterns and neuronal plasticity. For graduate students with little or no previous course work.

Mr. Lisman

BIOLOGY 150aR. Gene Structure and Function

Contemporary investigations of the molecular structure of genes and gene products, especially in relation to eukaryotic gene expression and its regulation. There will be an emphasis on methodology, especially recombinant DNA technology, and on original research papers. Open to advanced undergraduates and graduate students with background in genetics and biochemistry.

Mr. Fulton

BIOLOGY 161b. Developmental Genetics

The course will consider the use of classical genetics, cytogenetics and molecular genetics in the analysis of developmental problems. Developmental processes such as oogenesis, embryogenesis and gene amplification will be used as framework for discussion of such genetic techniques as gynandromorph mapping, somatic recombination, cytoplasmic and cellular transplantation, *in situ* hybridization, somatic cell recombination, etc.

Readings will be assigned from the literature. Course requirements: one paper, one class presentation and a final examination.

Ms. Karrer

BIOLOGY 175b. Advanced Immunobiology

Recent advances in immunobiology. The format will include lectures to introduce the subject material and a detailed analysis with student participation of papers in the current literature. Topics which will be considered include: lymphocyte subsets-differentiation, heterogeneity, function, phenotypes, and antigen receptors; requirements for and mechanisms of lymphocyte activation by antigen; the regulatory mechanisms permitting/preventing immune responsiveness; genetic restrictions in lymphocyte interactions, with emphasis on the role of genes in the species' major histocompatibility complex; and the cellular basis for transplantation and tumor immunity.

Permission of instructor required.

Ms. Press

BIOLOGY 245a. Selected Topics in Plant Metabolism

See Photobiology 245a.

Mr. Gibbs

BIOLOGY 245b. Comparative Physiology and Biochemistry of Plants

See Photobiology 245b.

Mr. Schiff

BIOLOGY 275b. Molecular Immunology

A course designed to investigate the molecular mechanisms responsible for many immunological phenomena. Material to be covered will be taken from recent literature and will focus on genes and gene products encoded within Ig heavy and light chain loci and the major histocompatibility complex. Topics to be examined include V-C joining, allelic exclusion, heavy chain switching, V region diversification, gene complementation, H-2 restriction and T-cell antigen receptors and factors. This will be a lecture course in which considerable student participation is expected.

Mr. Cannon

Courses in Research

BIOLOGY 300a and b. Biological Research

Primarily for the first year student with the purpose of introducing him or her to biological research and to the work in progress in the laboratories of a number of faculty members. In consultation with the graduate adviser, the student plans a sequence of such tenures, each comprising six weeks or more, and then carries out experimental investigations under the guidance of the faculty members involved. *Staff*

BIOLOGY 400. Biophysics of Microorganisms	<i>Mr. Epstein</i>
BIOLOGY 401. Structure and Genetic Control of Antibodies Primary Structure and Function of Proteins	<i>Mr. Cannon</i>
BIOLOGY 402. Molecular Biology of Microorganisms	<i>Mr. Halvorson</i>
BIOLOGY 403. Immunochemistry: Genetic Control of the Immune Response	<i>Mr. Nisonoff</i>
BIOLOGY 404. Developmental Neurobiology	<i>Ms. White</i>
BIOLOGY 405. Cell Differentiation and Morphogenesis	<i>Mr. Fulton</i>
BIOLOGY 406. Neurophysiology	<i>Ms. Marder</i>
BIOLOGY 407. Structural Aspects of Contractile Systems, Cell Division and Blood Coagulation	<i>Ms. Cohen</i>
BIOLOGY 408. Behavioral Genetics	<i>Mr. Hall</i>
BIOLOGY 409. Biophysics of Visual Transduction	<i>Mr. Lisman</i>
BIOLOGY 410. Plant Development	<i>Mr. Klein</i>
BIOLOGY 411. Gene Control in Vitellogenin	<i>Mr. Wangh</i>
BIOLOGY 412. Structural Molecular Biology	<i>Mr. DeRosier</i>
BIOLOGY 413. General Physiology	<i>Mr. Szent-Gyorgyi</i>
BIOLOGY 414. Gene Organization in Eukaryotes. Macromolecular Synthesis During Oogenesis	<i>Mr. Rosbash</i>
BIOLOGY 415. Biochemistry and Genetics of Differentiation	<i>Mr. Haber</i>
BIOLOGY 416. Molecular Analysis of Germ Line Development	<i>Ms. Karrer</i>
BIOLOGY 417. Cellular Immunology	<i>Mr. Stout</i>
BIOLOGY 418. Developmental Immunology	<i>Ms. Press</i>

Biology Journal Clubs

There will be a number of informal Journal Clubs which will deal with various topics of concern to the various specialties. These will meet regularly under the auspices of the staff. Students, depending upon their individual needs, may be required to attend.

Institute for Photobiology of Cells and Organelles

Objectives

The graduate program of the Institute is designed to give students an understanding of the photobiology of cells and organelles as part of the fundamental nature of living processes, and to train them to undertake original research in these areas.

The Institute rarely admits a graduate student who desires a master's degree. Such candidates may, however, be admitted at the discretion of the faculty as exceptional cases. A Master of Arts degree may be granted on completion of a designated program to be arrived at after consultation with the graduate adviser.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. The student's undergraduate record should ordinarily include courses equivalent to those required of undergraduates concentrating in biology or biochemistry at this institution. These are: general biology, genetics, cell physiology and biochemistry, developmental biology, and at least two additional elective courses. Students who are deficient in some of these subjects but whose records are otherwise superior, may make up their deficiencies while they are enrolled as graduate students. In exceptional cases, students may be excused from some of these requirements. Students with serious deficiencies, must, however, expect to add additional time to their graduate program in order to satisfy the deficiencies.

It is strongly recommended that applicants take the Graduate Record Examination.

On being admitted to the Institute, graduate students will be advised and aided in planning their programs.

An important part of graduate training consists of laboratory experience. Since the summer months provide an opportunity for such work, unbroken by courses and other responsibilities, it is customary for graduate students to spend their summers doing research.

Faculty

Professor Jerome A. Schiff, *Director*: Plant biochemistry and physiology. Photo-control of intracellular development. Sulphur metabolism.

Professor Martin Gibbs: Photosynthesis and plant physiology.

Professor Albert Kelner: Genetics. Microbial genetics. Radiation biology.

Degree Requirements

At least one year of teaching experience is required of all degree candidates.

Master of Arts

Program of Study. The program leading to the M.A. in biology focuses primarily on the research capability of the student. Specifically, the primary requirement for the degree is the completion of a thesis based on original laboratory work which is acceptable to the Institute. In general, the preparation for an original research problem will necessitate the enrollment of a student in course work. The specific number and types of courses will vary, depending on

the ultimate research problem, and will be prescribed by the Institute. The candidate must, however, complete the equivalent of one full year of graduate study at Brandeis University, ordinarily computed at a minimum of eight half-courses of approved study.

By the end of the first year, each graduate student will choose a specific field of interest and will apply to the Director of the Institute for a permanent adviser to be assigned by the Institute. This adviser will serve as the chairman of a committee which will advise the student on courses to be taken and guide him or her throughout the thesis problem.

Language Requirement. All candidates are required to demonstrate a reading knowledge of French, German or Russian, or to be proficient in Fortran. An examination demonstrating reading ability in the foreign language or proficiency in the use of computer language must be taken prior to the completion of thesis work.

Qualifying Examination. At the discretion of the student's advisory committee, a qualifying or comprehensive examination may be required.

Doctor of Philosophy

Program of Study. All students are expected to obtain a knowledge of the principles and techniques of the areas of: biochemistry and physiology (with emphasis on metabolism); genetics, regulation, DNA and repair; development; photobiology; and molecular structure, structure in relation to function, photochemistry, microbiology and evolution (the five proposition areas of the qualifying examination). Proficiency in those areas of chemistry and physics related to photobiology is also expected. This knowledge will be acquired during the first two years through courses, seminars, reading, research rotations, etc. in preparation for the qualifying examination.

Language Requirements. A reading knowledge of French, German or another language acceptable to the Institute is required. Proficiency in Fortran may be substituted for a reading knowledge of a foreign language. This requirement must be met before the student completes the first year of graduate study.

Research Rotation. Students may rotate to any laboratory in the Institute on acceptance by the professor involved. A student should stay long enough on each rotation to complete a piece of research and to learn the techniques involved. Research rotations will ordinarily be completed during the first year.

When the student completes his or her rotations, he or she petitions the Institute, with the consent of the professor concerned, to have a permanent adviser appointed. When the permanent adviser has been approved, this adviser will sign program cards for the student, advise him or her on courses, convene the proposition and examining committees, supervise the thesis and ultimately convene the thesis examining committee which is the final examination for the Ph.D. degree.

Qualifying Examination. Ordinarily this examination should be completed before the active dissertation work is initiated. The student's adviser will appoint, with the consent of the Institute, two other faculty members to serve with him or her in the five core areas mentioned above with no more than one proposition in any one area. Each proposition should be a proposal or hypothesis subject debate. The proper form in which the propositions are to be submitted will be designated by the Institute. The student will be examined orally on at least three of the acceptable propositions by the three members of the propositions committee plus additional faculty members as needed.

Admission to Candidacy. To be admitted to candidacy, the student must have (a) passed the foreign language examination, (b) passed the qualifying examination, (c) shown a capacity for independent research, (d) been accepted by a graduate adviser.

Dissertation and Defense. Each student will conduct an original investigation. After admission to candidacy, a dissertation committee will be appointed by the Director of the Institute. It will consist of at least three staff members headed by the student's permanent adviser. This committee will guide his or her research activities toward the doctoral dissertation and will read and evaluate the completed dissertation. After submission of the dissertation, the candidate will be expected to present the principal results of his or her work and its significance during an examination in defense of the dissertation.

Courses of Instruction

PHOTOBIOLOGY 100a and b. Photobiology of Cells and Organelles

Basic photobiology including an introduction to the physical and chemical concepts involved, the influence of the changing solar spectrum on the course of evolution, the catalytic uses of light by living systems including photoperception (phototropism, phototaxis and the evolution of visual systems), photomorphogenesis (blue light and re-far red systems), photoinduced rhythms, and other biological responses to light, energy storage including the photosynthetic apparatus, membranes and reaction centers, photosynthetic electron transport and phosphorylation, photosynthetic carbon metabolism and photoreduction, utilization of assimilatory power in reductive reactions, the deleterious effects of light including photodynamic action, photoprotection, erythral effects, ultraviolet damage to the genetic material and its photorepair and the evolution of repair systems and medical applications.

Prerequisites: Cell biology or its equivalent. Permission of the instructor.

Messrs. Gibbs, Kelner and Schiff

PHOTOBIOLOGY 245a. Selected Topics in Plant Metabolism

A discussion of those areas of physiology and biochemistry to which plants lend themselves as experimental objects. Conspicuous examples are photosynthesis, photomorphogenesis, nitrogen fixation, and the biosynthesis of natural products such as anthocyanins, flavonoids, isoprenoids, phenols, terpenes, etc.

Prerequisite: Permission of the instructor.

Mr. Gibbs

PHOTOBIOLOGY 245b. Comparative Physiology and Biochemistry of Plants

A continuation of Photobiology 145a.

Prerequisite: Permission of the instructor.

Mr. Schiff

PHOTOBIOLOGY 401. Photobiological Aspects of Genetics and Microbiology

Mr. Kelner

PHOTOBIOLOGY 406. Photobiology and Plant Physiology

Mr. Schiff

PHOTOBIOLOGY 412. Photobiochemistry and Plant Metabolism

Mr. Gibbs

Institute Journal Clubs

There will be a number of informal Journal Clubs which will deal with various topics of concern to the various specialties. These will meet regularly under the auspices of the staff. Students, depending upon their individual needs, may be required to attend.

BIOPHYSICS

Objectives

The interdepartmental graduate program in biophysics, leading to the degree of Doctor of Philosophy, is designed to provide a broad background in the physics and chemistry of living processes and to develop the students' capacity for independent research. The program offers opportunity for study and research in biophysical chemistry, cellular physiology, molecular genetics, photobiology, psychophysics and structural biology. Applicants are expected to have strong backgrounds in physical science with undergraduate concentrations in biology, chemistry, mathematics, physics or engineering.

Admission

The general requirements for admission to the Graduate School are given in an earlier section of this catalog. Applications should include, in addition to letters of reference, a personal statement giving reasons for choosing biophysics and indicating areas of interest. Applicants are required to take the Graduate Record Examination and are encouraged to visit Brandeis for interviews, if possible.

Faculty Advisory Committee

To be Announced

The faculty of the Biophysics Program is composed of members of the Biochemistry, Biology, Chemistry and Physics departments. About twenty faculty members participate in this graduate program.

Degree Requirements

Doctor of Philosophy

Program of Study. Since Biophysics is a very broad field and students may have widely different backgrounds and goals, the course of study is flexible. During the first year students take Biophysics 300, a course in which students meet with selected faculty members to explore areas of research. Students are also required to successfully complete Biophysics 200b. In addition, students generally complete the following courses: Advanced Biochemistry (Biochemistry 101a), Introduction to Physical Biochemistry (Biophysics 104b), Structural Biology (Biophysics 102b) and Biophysical Optics (Biophysics 101a). Courses to complete the student's program will depend on the student's background and interests. The additional courses can be in the areas of biochemistry, biology, biophysics, chemistry, mathematics, photobiology or physics.

Language Requirements. Reading knowledge of two foreign languages, chosen from French, German and Russian. A knowledge of computer programming may be substituted for the second language.

Admission to Candidacy. Students are admitted to candidacy on the basis of academic performance and on research proposals that they develop and defend, generally during the second year of study. Students must pass Biophysics 200b in order to qualify for admission to candidacy.

Dissertation and Defense. Each doctoral candidate will submit a dissertation describing his or her research and will be required to defend it in a Final Oral Examination.

Courses of Instruction

BIOPHYSICS 100a and b. Photobiology of Cells and Organelles

See Photobiology 100a and b.

Messrs. Gibbs, Kelner and Schiff

***BIOPHYSICS 101a and b. Biophysical Optics**

BIOPHYSICS 102b. Structural Biology

See Biology 102b.

Ms. Cohen

BIOPHYSICS 104b. Introduction to Physical Biochemistry

See Biochemistry 104b.

Mr. Timasheff and Staff

***BIOPHYSICS 130b. Biophysics of Excitable Membranes**

BIOPHYSICS 152b. Biological Assembly

See Physics 152b.

Mr. Caspar

***BIOPHYSICS 180b. Cell Morphogenesis**

BIOPHYSICS 200b. Seminar in Biophysical Research

A required seminar for Biophysics majors which will deal with current biophysical research. Emphasis is on the understanding, critical evaluation and use of scientific literature. Students will discuss topics from the areas of biophysical chemistry, cellular physiology, molecular genetics, photobiology, and structural biology, based on the reading of significant articles. In consultation with the faculty, each student will develop a research proposition based on independent reading and will prepare a research plan in the form of a thesis proposal.

Open to graduate students in other sciences with permission of the instructor. *Mr. Caspar*

***BIOPHYSICS 229b. Special Topics in Inorganic Chemistry: Introduction to X-ray Structure Determination**

***BIOPHYSICS 231b. Molecular Aspects of Membrane Phenomena**

BIOPHYSICS 300. Introduction to Research in Biophysics

Students carry out a project in the research laboratory of one of the faculty members. Projects and faculty are selected from the departments of biochemistry, biology, chemistry and physics and the Institute of Photobiology. At least three terms of Biophysics 300 are required.

Staff

CHEMISTRY

Objectives

The graduate program in chemistry, comprising course work, seminar participation, and research, is designed to lead to a broad understanding of the subject. The graduate program leads to the M.A. and Ph.D. degrees in chemistry. The Ph.D. is offered with specializations in inorganic, organic, physical and physical-organic chemistry and in chemical-physics. (Detailed information on the interdisciplinary specialization in chemical physics is found on page 65). All students will be required to demonstrate knowledge in advanced areas of inorganic, organic and physical chemistry. The doctoral program is designed to be flexible so that individual programs of study may be devised to satisfy the particular interests and needs of each student. In each case this program will be decided by joint consultation between the student and the Departmental Committee of Graduate Studies and the thesis supervisor when se-

lected. The doctoral program will normally include a basic set of courses in the student's own area of interest, to be supplemented by advanced courses in chemistry and, where appropriate, in biochemistry, biology, mathematics and physics.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. In addition, the undergraduate curriculum of applicants should include courses in physics and mathematics (differential and integral calculus), and courses in general and inorganic, analytical, organic and physical chemistry.

Admission to advanced courses will be based upon results of a qualifying examination in each of these areas of chemistry, which will be taken upon entrance. These examinations will determine if the student shall be required to make up deficiencies in preparation. The results of the qualifying examinations will be considered in the assignment of awards for the subsequent years of graduate study and in determining a student's eligibility to continue in a degree program.

Faculty

Professor Colin Steel, *Chairman*: Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions; photophysics and photochemistry of infrared laser-induced reactions.

University Professor Saul G. Cohen: Chemistry of free radicals; organic photochemistry; specificity and mechanism of reactions of enzymes.

Professor Paul B. Dorain: Electron paramagnetic resonance; exchange interactions, electron phonon interactions and optical spectra of crystalline materials; spectra of the excited state.

Professor Sidney Golden: Quantum theory of chemical kinetics; many body problems and atomic and molecular structure; statistical mechanics of ion solvation; physical chemistry of metal-ammonia solutions; equilibrium and time-dependent quantum statistical inequalities; exact time-dependent quantum properties; quantum-mechanical upper and lower bounds.

Professor Ernest Grunwald: Infrared laser chemistry; electronic spectra of vibrationally excited molecules; protonic conduction in polymer films; solvation in polar liquid solutions.

Professor James C. Hendrickson: Synthesis of natural products; synthesis design; systematics and development of new synthetic reactions.

Professor Kenneth Kustin: Inorganic biochemistry; vanadium in tunicate blood cells and human tissues; membrane transport; fast reactions.

Professor Henry Linschitz: Reactions of excited molecules; stabilization of free radicals; photo-ionization in solution; metal complexes; physical mechanisms of photobiological processes.

Professor Myron Rosenblum: Chemistry of organometallic complexes of the transition elements; period methods in organic synthesis employing organometallic complexes.

Professor Robert Stevenson: Isolation and structure of natural products; compounds of medicinal interest (steroids, terpenoids, lignans, heterocyclics).

Associate Professor Iu-Yam Chan: Optically detected magnetic resonance; time resolved magnetic resonance, EPR and ENDOR.

Associate Professor Irving R. Epstein: Use of quantum mechanics to elucidate molecular properties; theoretical approaches to Compton scattering; borane and carborane chemistry; oscillating chemical reactions and biochemical kinetics.

Associate Professor Bruce M. Foxman: X-ray structure determination; chemical, physical and crystallographic studies of solid-state reactions.

Associate Professor Michael J. Henschman: Gas kinetics under "single collision" conditions; dynamics of molecular collision processes.

Associate Professor Peter C. Jordan: Statistical mechanics of cooperative phenomena and membrane transport; electrostatic modelling of ion pores.

Associate Professor Philip M. Keehn: Synthetic methods, organic synthesis of strained rings and theoretically interesting molecules; applications of nmr spectroscopy to organic systems; photooxidation; pure and applied laser chemistry of organic systems.

Associate Professor Thomas R. Tuttle, Jr.: Chemistry of liquid solutions; the composition and structures of species in metal solutions in polar solvents; application of spectroscopy, e.g., magnetic resonance, optical and spectropolarimetry, to elucidation of the composition and structure of solutions.

Assistant Professor Louis S. Stuhl: Organometallic synthesis, catalysis and mechanism; novel ligands and oxidation states in organometallic complexes, and applications to organic synthesis.

Degree Requirements

Detailed information on the interdisciplinary specialization in chemical physics is found on page 65.

Entering students may be admitted to either the master's or the doctoral program.

All candidates for advanced degrees are required to meet the following requirements:

Qualifying Examination. These examinations are set twice a year, in September and January, and are based on the undergraduate chemistry curriculum. Students are required to take and are expected to pass qualifying examinations in organic, inorganic-analytical and physical chemistry during their first year.

Language Requirements. Each student is obliged to demonstrate a useful reading knowledge of scientific French, German or Russian within the first two years of residence.

Seminar. Each student in residence is required to attend and participate in the seminar in his or her chosen area of concentration throughout the period of graduate study.

Teaching. It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

Placement and Evaluation of Progress. Recommendations with respect to the first-year course of study will be based on the performance on the initial qualifying examinations. Admission to the graduate degree programs will be based on the student's record in course work during the first year and the performance on the qualifying examinations.

Master of Arts

Program of Study. Each candidate is required to complete successfully one year of study at the graduate level in chemistry, or, with prior permission of the Departmental Graduate Studies Committee, in related fields. The program will include laboratory work and, normally, six semester courses at the graduate level. The detailed program of study will be one jointly arrived at by the candidate and the Graduate Studies Committee to reflect the candidate's area of interest as well as a perspective of other areas.

Residence Requirements. The minimum residence requirement for the M.A. degree is one year.

Doctor of Philosophy

Program of Study. A balanced program of study will be prepared jointly by the student and the Departmental Graduate Studies Committee. This will normally include a basic core of course work in the student's area of interest and later more specialized courses appropriate to it. It is expected that doctoral students will choose a research adviser during the first year, normally in the second semester. A student who satisfactorily completes the first year of study in the doctoral program qualifies for the master's degree.

Admission to Candidacy. A student is recommended for admission to candidacy for the doctoral degree upon certification by his or her thesis adviser and the Graduate Studies Committee that the student has satisfied the qualifying and language examination requirements and has made satisfactory progress in the program of study, research and the final Ph.D. examinations.

Final Examinations. The graduate student must demonstrate proficiency by taking final examinations in his or her major field: organic, physical-organic, physical, or inorganic chemistry. In the organic chemistry program, a cumulative examination procedure is used. Each year, six one-hour examinations (on unannounced topics), and one three-hour examination (on an announced reading) are given. The final examination requirement is satisfied by the student having passed a) one three-hour examination and six one-hour examinations, or b) two three-hour examinations and three one-hour examinations. In physical-organic chemistry, final examinations are administered twice a year and are based on assigned readings. Students must pass three of these examinations and must maintain satisfactory progress toward this end. In physical chemistry and inorganic chemistry, generally during the third semester of graduate work, the student is assigned a set of propositions. In physical chemistry the set consists of three propositions; the student takes a written examination on one proposition and is examined orally on the remaining two. In inorganic chemistry the student is assigned two propositions; he or she takes a written examination on one proposition, and is examined orally on his or her proposed research project and the remaining proposition.

Residence Requirements. The minimum residence requirement for the Ph.D. degree is two years.

Dissertation and Defense. A dissertation is required which describes the results of an original investigation and which demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. An oral defense of the dissertation will be held.

Courses of Instruction

*CHEMISTRY 110b. Instrumental Chemical Analysis

CHEMISTRY 121a. Inorganic Chemistry I, Lectures

Introduction to the principles of chemical binding; valence theory, periodic properties, symmetry, ionic and molecular structures. Application chiefly to the chemistry of the transition elements.

Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry. Three lecture hours a week.

Mr. Foxman

*CHEMISTRY 129b. Inorganic Chemistry Laboratory

*CHEMISTRY 130a. Advanced Organic Chemistry: Structure

*CHEMISTRY 131a. Advanced Organic Chemistry: Topics in Structure and Reactivity

CHEMISTRY 132b. Advanced Organic Chemistry: Spectroscopy

Application of physical and spectroscopic methods to the elucidation of structure and stereochemistry of organic compounds.

Prerequisite: Satisfactory grade in Chemistry 130a or permission of instructor.

Mr. Stuhl

CHEMISTRY 133a. Advanced Organic Chemistry: Mechanisms

Kinetics, stereochemistry and mechanisms of selected organic reactions.

Prerequisites: Satisfactory grade in undergraduate courses in organic and physical chemistry.

Mr. Stuhl

CHEMISTRY 134bR. Advanced Organic Chemistry: Synthesis

Systematic design of organic syntheses, including a survey of reaction for construction and functionalization of organic molecules and criteria for their use in synthesis design.

Selected total syntheses from the literature will be examined.

Mr. Hendrickson

CHEMISTRY 141a. Advanced Physical Chemistry I

Thermodynamics and statistical thermodynamics. Properties of real systems: gases phase stability, chemical equilibrium, and solutions. Statistical equilibrium, ensembles, and fluctuations.

Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry.

Mr. Tuttle

CHEMISTRY 141b. Advanced Physical Chemistry I

Irreversible thermodynamics and chemical kinetics. Entropy production, reciprocal relations, microscopic reversibility and regression of fluctuations. Active transport, relaxation kinetics and oscillating reactions. Solution kinetics including enzyme reactions. Gas kinetics and theories of elementary processes. Microscopic kinetics: energy transfer and collision dynamics.

Prerequisite: Satisfactory grade in Chemistry 141a and permission of instructor.

Mr. Jordan

CHEMISTRY 142bR. Advanced Physical Chemistry II

Quantum mechanics: waves and wave packets, operator methods, Schrodinger's equation, simple model systems, angular momenta, perturbation theory and variational principle.

Prerequisite: Satisfactory grade in an undergraduate course in physical chemistry.

Mr. Epstein

CHEMISTRY 143aR. Advanced Physical Chemistry II

A continuation of Chemistry 142b. Quantum chemistry: spin, atomic and molecular structure, spectroscopy, chemical binding, advanced topics.

Prerequisite: Satisfactory grade in Chemistry 142b or the equivalent.

Mr. Golden

CHEMISTRY 144aR. Structure and Spectroscopy

Interaction of radiation with matter and its relevance to molecular structure. Topics will be selected from: x-ray and electron diffraction; microwave, nmr, infra-red, visible and ultraviolet absorption; molecular beam and mass spectrometry.

Prerequisite: Satisfactory grade in an undergraduate physical chemistry course.

Mr. Chan

***CHEMISTRY 145b. Special Topics**

BIOCHEMISTRY 100a. Introductory Biochemistry

See Biochemistry 100a.

Section 1: *Mr. Hollocher*

Section 2: *Messrs. Fasman and Murakami*

BIOCHEMISTRY 100aR. Introductory Biochemistry

See Biochemistry 100a.

Mr. Lowenstein

CHEMISTRY 200. Advanced Chemistry Laboratory

Staff

CHEMISTRY 200c. Inorganic Chemistry Seminar

Required of graduate students in inorganic chemistry, who must audit this course each year. *Staff*

CHEMISTRY 221b. Advanced Inorganic Chemistry I

Inorganic reaction mechanisms: Principles of chemical relaxation and magnetic resonance line broadening. Applications to the kinetics of substitution and spin isomerization reactions. *Mr. Kustin*

***CHEMISTRY 222b. Advanced Inorganic Chemistry II**

***CHEMISTRY 229b. Special Topics in Inorganic Chemistry**

CHEMISTRY 231c. Organic Chemistry Seminar

Required of graduate students in organic chemistry, who must audit this course each year. *Staff*

***CHEMISTRY 232b. Chemistry of Heterocyclic Compounds**

***CHEMISTRY 233b. The Biosynthesis of Natural Products**

CHEMISTRY 234bR. Chemistry of Organometallic Compounds

A survey of the complexes formed by transition metals with olefins, acetylenes and aromatic ligands; their preparation, properties and chemical reactions.
Prerequisite: Chemistry 130a or equivalent. *Mr. Rosenblum*

***CHEMISTRY 235a. Special Topics in Organic Chemistry: Synthesis Design**

CHEMISTRY 235b. Special Topics in Organic Chemistry

Topic for 1980-81 will be the Chemistry of Higher Terpenoids. *Mr. Stevenson*

CHEMISTRY 237bR. The Chemistry of Organic Natural Products

The chemistry of a specific group of natural products with reference to occurrence, isolation, structure elucidation, class interconversion, synthesis and biogenesis. *Mr. Stevenson*

CHEMISTRY 240c. Physical-Organic Chemistry Seminar

Required of graduate students in physical-organic chemistry, who must audit this course each year. *Staff*

CHEMISTRY 241c. Physical Chemistry Seminar

Required of graduate students in physical chemistry, who must audit this course each year. *Staff*

***CHEMISTRY 244a. Special Topics in Physical Chemistry**

CHEMISTRY 244b. Special Topics in Physical Chemistry

Lectures and discussion will focus on chemical and physical properties of laser-excited molecules. *Mr. Grunwald*

***CHEMISTRY 245a. Physical Organic Chemistry**

CHEMISTRY 250c. Chemical Physics Seminar

Required of graduate students in chemical physics who must audit this course each year.

Staff

The following courses are given every three to five years or when there is sufficient student interest:

***CHEMISTRY 122b. Inorganic Chemistry II, Lectures**

***CHEMISTRY 123b. Nuclear Chemistry**

***CHEMISTRY 243a. Statistical Thermodynamics**

***CHEMISTRY 248a. Advanced Quantum Chemistry**

CHEMISTRY COLLOQUIUM

Lectures by faculty and invited speakers. Required of all graduate students. *Non-credit.*

Courses in Research

CHEMISTRY 400. Organic Chemistry and Physical Organic Chemistry

Reaction mechanisms; photochemistry; enzyme reactions; free radicals.

Mr. Cohen

CHEMISTRY 401. Organic Chemistry

Chemistry of natural products; steroids, triterpenoids, bisarylpropanoids, benzofurans.

Mr. Stevenson

CHEMISTRY 403. Organic Chemistry

Chemistry of organometallic complexes of the transition elements. New methods in organic synthesis employing organometallic complexes.

Mr. Rosenblum

CHEMISTRY 404. Organic Chemistry

Synthesis of natural products; development of new synthetic reactions; computerization of synthesis design systematics.

Mr. Hendrickson

CHEMISTRY 405. Physical Chemistry

Chemical kinetics of elementary reactions; statistical theory of atomic and molecular structure; statistical mechanics of electrolytic solutions; physical chemistry of metal-ammonia solutions; equilibrium and time-dependent quantum statistical inequalities; exact time-dependent quantum properties; quantum-mechanical upper and lower bounds.

Mr. Golden

CHEMISTRY 406. Physical Chemistry

Reactions of excited molecules; luminescence; electron solvation; metal complexes; physical mechanisms of photobiological processes.

Mr. Linschitz

CHEMISTRY 407. Physical and Inorganic Chemistry

Electron paramagnetic resonance; optical spectra; solid state chemistry.

Mr. Dorain

CHEMISTRY 408. Physical Chemistry

Experimental and theoretical study of chemical species in solution. Spectroscopic investigations of metal solutions in polar solvents.

Mr. Tuttle

CHEMISTRY 409. Inorganic Chemistry

Inorganic biochemistry; vanadium in tunicate blood cells and human tissues; membrane transport; fast reactions.

Mr. Kustin

CHEMISTRY 411. Physical Chemistry

Chemistry of excited molecules and radicals; the kinetics and mechanisms of photochemical and thermal reactions. Photophysics and photochemistry of infrared laser-induced reactions.

Mr. Steele

CHEMISTRY 412. Physical and Physical Organic Chemistry

Infrared laser chemistry; electronic spectra of vibrationally excited molecules; protonic conduction in polymer films; solvation in polar liquid solutions.

Mr. Grunwald

CHEMISTRY 413. Physical Chemistry

Membrane transport; electrostatic modelling of ion pores, properties of ferrofluids.

Mr. Jordan

CHEMISTRY 414. Physical Chemistry

Cross-sections, dynamics and lifetimes of ion-neutral collision processes in the gas phase using beam techniques; charge transfer; reactions of solvated ions.

Mr. Henchman

CHEMISTRY 415. Physical Chemistry

Quantum mechanical calculations of molecular properties; molecular momentum distributions; Compton scattering and X-ray diffraction; photochemistry, oscillating chemical reactions and biochemical kinetics; borane and carborane chemistry.

Mr. Epstein

CHEMISTRY 416. Physical Chemistry

Application of optically detected magnetic resonance, time resolved magnetic resonance, EPR and ENDOR to the investigation of organic triplet state molecules. Laser spectroscopy in supersonic jets and in crystals.

Mr. Chan

CHEMISTRY 417. Organic Chemistry

Organic synthesis of strained ring and theoretically interesting molecules; synthetic methods; application of nuclear magnetic resonance spectroscopy to organic systems; photooxidation; thermal chemistry; pure and applied laser chemistry of organic systems.

Mr. Keehn

CHEMISTRY 419. Inorganic Chemistry

X-ray structure determination; reactions in crystals; kinetics, mechanisms, and crystallography of rearrangement, polymerization, and decomposition reactions in the solid-state.

Mr. Foxman

CHEMISTRY 420. Organometallic Chemistry

Organometallic synthesis and reactivity; chemistry of transition metal cyano complexes; organometallic complexes in unusual oxidation states; catalysis of carbon-carbon bond formation and cleavage. Chemistry of non-metals.

Mr. Stuhl

Ph.D. in Chemistry with Specialization in Chemical Physics

The graduate program in chemical physics is an interdisciplinary specialization designed to meet the needs of students who wish to prepare themselves for the study of scientific problems using the methods and theories of modern physics and physical chemistry. This objec-

tive is attained by (1) formal course work in chemistry, physics, and, possibly, mathematics; (2) participation in relevant graduate seminars; (3) a program of supervised research involving chemical physics; (4) independent study.

The program is designed to be flexible in providing individual programs of study to satisfy the particular interests and needs of each student. Final programs of study and research will be jointly arrived at by the student, his or her research supervisor and the Chemical Physics Committee. Only candidates for the Ph.D. will be accepted.

Admission

The general requirements for admission to the Graduate School apply to candidates for admission to the graduate program in chemical physics. Applicants should have a strong undergraduate background in chemistry, physics and mathematics.

Degree Requirements

No master's degree is offered with specialization in chemical physics, but students who satisfy the appropriate requirements will be eligible for the M.A. degree in chemistry.

All candidates for the Ph.D. degree in Chemistry with specialization in chemical physics must meet the following requirements:

Qualifying Examinations. Each student is expected to demonstrate a satisfactory knowledge of undergraduate chemistry, physics and mathematics by the performance in three qualifying examinations; one each in physical chemistry, organic or inorganic/analytical chemistry and physics/mathematics. These examinations are set two times a year, in September and January. Results of these examinations will be used as an aid in constructing the student's initial program of course work and will be considered by the Chemical Physics Committee in evaluating the student's progress.

Language Requirements. Each student is required to demonstrate a useful reading knowledge of scientific French, German or Russian within the first two years of residence.

Seminar. Each student in residence is required to attend and to participate in the Chemical Physics Seminar. Participation in other seminars in physics and chemistry is also recommended.

Teaching. It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

Doctor of Philosophy

Program of Study. It is expected that some candidates for the Ph.D. degree in chemistry with specialization in chemical physics may require a longer period of time in course work than will students in either of the fields of physics or chemistry. In general, the program for the Ph.D. in chemistry with specialization in chemical physics will include eight semester graduate courses: four in physical chemistry, one in either organic or inorganic chemistry and three in physics. No specific course work in mathematics is required, but students are expected to be familiar with the techniques necessary for the proper pursuit of their research. In addition, each student is expected to demonstrate a knowledge of elementary computer programming.

Students may satisfy their program's course requirements in part or in entirety by passing (or giving evidence of ability to pass) the final examination in the appropriate number of such

courses. Courses in areas related to chemistry and physics may also be considered by the Chemical Physics Committee in partial fulfillment of the requirements.

Admission to Candidacy. Students are recommended for admission to candidacy for the doctoral degree upon certification by their thesis adviser and the Chemical Physics Committee that they have satisfied the qualifying and language examination requirements and have made satisfactory progress in the program of study, research and the final Ph.D. examination.

Final Examinations. Final examinations in chemical physics are generally taken during the third semester of graduate work. The student is assigned a set of three propositions; the student takes a written examination on one proposition and is examined orally on the remaining two.

Residence Requirements. The minimum residence requirement for the Ph.D. degree is two years.

Dissertation and Defense. A dissertation is required which describes the results of an original investigation and which demonstrates the competence of the candidate in independent investigation, critical ability and effectiveness of expression. An oral defense of the dissertation will be held.

CLASSICAL AND ORIENTAL STUDIES

ORIENTAL STUDIES PROGRAM

Objectives

The program of studies aims at preparing the student for teaching and research in the history, languages and archaeology of the ancient civilizations of the Nile valley, western Asia and the Aegean.

The program has a twofold purpose: first, to train students who wish to specialize in these areas of study; second, to offer an opportunity to students in other fields to integrate with their own studies the courses given in the Department.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this program.

Students planning to enter this Department should take as much Hebrew, Greek and Latin as possible during their undergraduate study. They should also make every effort to achieve a sight reading knowledge of French and German before embarking on graduate study.

Faculty

Professor Leonard C. Muellner, Chairman: Greek language and literature.

Professor Louis V. Žabkar, Director of Graduate Studies: Egyptian language, history and archaeology.

Professor Douglas J. Stewart: Greek language and philosophy.

Associate Professor Ian A. Todd: Aegean and Near Eastern archaeology.

Assistant Professor Patricia A. Johnston: Latin language and literature.

Assistant Professor Martha A. Morrison: Cuneiform studies. Mesopotamian history, language.

Assistant Professor William M. Porter: Latin language and literature.

Assistant Professor Cheryl L. Walker: Classical history.
Lecturer Cynthia A. Rose: Latin language and literature.

Degree Requirements

Master of Arts

Program of Study. Each candidate for the master's degree is required to complete satisfactorily not less than eight semester-courses in the department, plus any additional course work that the major professor may prescribe. While an exceptionally well prepared student may fulfill the requirements for the degree in one year, two years of study will normally be required. Master's examinations will not be administered before the end of the second year of residence except by special permission of the department. All students, whatever their principal area of specialization, will be required to study in all three major areas covered by the department, namely, language, history, and archaeology.

Language Requirement. The candidate must demonstrate a reading proficiency in French or German, and competence in at least one ancient language. Certain areas of specialization will require the knowledge of additional languages.

Qualifying Examinations. The student must demonstrate, in written and oral examinations, proficiency in two major areas of the program.

Doctor of Philosophy

Program of Study. The requirements are the same as for the Master of Arts degree, plus eight additional semester-courses in the department.

Language Requirement. The candidate must demonstrate a reading knowledge of two modern foreign languages, ordinarily French and German, and competence in at least one ancient language. Certain areas of specialization will require the knowledge of additional languages.

Qualifying Examinations. The student must demonstrate, in written and oral examinations, proficiency in two major areas of the program. A thorough competence must be demonstrated in the field of concentration as well as proficiency in another area of the program elected by the student.

Admission to Candidacy. A student shall be eligible for admission to candidacy upon completing the language requirements and satisfactorily passing the written and oral qualifying examinations.

Dissertation and Defense. The dissertation must be a significant and original contribution to scholarship demonstrating a capacity for independent research based on primary sources. The completed dissertation shall be read and found acceptable by its director and two other readers, one of whom must be a member of another department or from another academic institution. The candidate must defend the dissertation successfully in a Final Oral Examination.

Courses of Instruction

CLASSICS

*CLASSICS 104b. Hesiod's *Theogony*: Convergent Approaches of Classics and Anthropology
See Anthropology 104b.

***CLASSICS 106b. The Renaissance of Ovid in England**

***GREEK 116a. Aristophanes**

GREEK 116b. Aeschylus

***GREEK 118a. Euripides**

GREEK 118bR. Sophocles

Introduction to Greek Tragedy; close reading of three plays.

Mr. Muellner

GREEK 120b. The Histories of Herodotus

A literary analysis of how the "father of history" conceived of narrative prose, which he also invented, and produced the greatest masterpieces of the genre.

Mr. Stewart

LATIN 116aR. Lucretius: *De Rerum Natura*

The philosophy of Epicureanism, in its most expressive form, will be studied with equal attention to ideology, poetics, traditions and language. *Prerequisite:* Latin 6a or b or equivalent.

Mr. Stewart

***LATIN 116b. Satura**

LATIN 118a. Virgil: Aeneid VII-XII

Readings from Catullus and Horace; some samples from later Latin, the *Pervigilium Veneris* and the *Carmina Burana*. Some reference to Greek models (in translation) and English imitations will be made in order to highlight the unique characteristics of the lyric genre in Latin. Class will consist largely in reading and critical analysis; students will be initiated into the mysteries of word order and meter.

Mr. Porter

***LATIN 118b. Roman Historians**

***LATIN 120a. Roman Epic Poets**

ARCHAEOLOGY

***CLORS 111. The Archaeology of Syria-Palestine**

CLORS 117. The Archaeology of Mesopotamia and Iran

A survey of the material culture of the great civilizations of Mesopotamia and Iran, from the Neolithic to the end of the Bronze Age. The course includes an introduction to the environment, the first village settlements and the development of cities in the Near East.

Mr. Todd

***CLORS 119. The Archaeology of the Aegean**

CLORS 120b. Archaeological Methods

See Anthropology 109b.

Mr. Zeitlin

CLORS 121a. Directions and Issues in Archeology

See Anthropology 123a.

Mr. Zeitlin

CLORS 122. The Archaeology of Anatolia

An introduction to the archaeology of Turkey from the Neolithic period through the Iron Age. Interconnections between the cultural traditions of Anatolia, Mesopotamia and the Aegean will be considered. Emphasis will be placed on the instructor's own field work in Neolithic and Bronze Age Anatolia.

Mr. Todd

CLORS 129b. Alexandria: The City and the Idea

See NEJS 129b.

Mr. Katchen

***CLORS 131a. Mathematics and Computers in Archaeological Data Analysis I**

***CLORS 131b. Mathematics and Computers in Archaeological Data Analysis II**

CLORS 146a. Environment and Archaeology

See Anthropology 146a.

Ms. Zeitlin

HISTORY

***CLASSICS 101a. Greek History**

***CLASSICS 101b. Topics in Greek History**

CLASSICS 102a. Roman History to 27 B.C.: A Survey

The political and social history of Republican Rome, from primary and secondary sources (in English). Readings will be from Livy, Polybius, Plutarch, Sallust, Cicero, Caesar and the Roman poets and playwrights.

Ms. Walker

CLASSICS 102b. Topics in Roman History: From Republic to Empire

Ms. Walker

***CLASSICS 105b. Golden Age of Greece**

CLASSICS 107b. Imperial Roman History: A Survey

The political and social history of Rome under the Emperors, 27 B.C.-395 A.D. Readings from Ovid, Seneca, Tacitus, Suetonius, Pliny the Younger, Petronius, Lucian, Augustine, Graves' *I. Claudius* and other primary and secondary readings. All readings in English.

Ms. Walker

***CLORS 103a. Introduction to Islamic Civilization and Institutions**

***CLORS 108a. From the Depths of the Apsu: Masterpieces of Mesopotamian Literature**

CLORS 148aR. Rise, Function and Fall of Early Civilization: Concepts and Explanations

See ANTHRO 148aR.

Mr. Cowgill

CLORS 149a. The World Before Civilization

See ANTHRO 122a.

Mr. Zeitlin

CLORS 150. History of Egyptian Civilization

Political and cultural history of Ancient Egypt from the Early Dynastic times to the end of the New Kingdom, with special emphasis on art, architecture and literature.

Mr. Zabkar

***CLORS 165. History of Mesopotamia**

***CLORS 166a. Topics in Mesopotamian History: Second Millennium B.C.E.**

CLORS 167b. Topics in Mesopotamian History: First Millennium B.C.E.

The interaction of the Greeks and the peoples of Anatolia, Syria and Mesopotamia will be studied from textual, archaeological and art historical evidence. Readings will include Herodotus, the Annals of the Assyrian Kings and Babylonian Chronicles.

Ms. Morrison

***CLORS 168a. The Hellenistic Period in Mesopotamia**

***CLORS 170a. Historiography in the Ancient World**

LANGUAGES

***CLORS 108b. Comparative Grammar of Semitic Languages**

AKKADIAN 101. Elementary Akkadian

Intensive study of Akkadian based on the grammars of Ungnad and von Soden. Readings in the Code of Hammurabi and related material. *Ms. Morrison*

***AKKADIAN 102a. Advanced Akkadian I: Assyrian Royal Inscriptions**

***AKKADIAN 102b. Advanced Akkadian II: Literary Texts**

AKKADIAN 103. Advanced Akkadian III: Second Millennium Texts

Historical, legal, social and economic texts from Mari, Alalah, Nuzi, Babylonia, Assyria and El Amarna will be read.

Prerequisite: AKKADIAN 101 or equivalent.

Ms. Morrison

***AKKADIAN 104a. Advanced Akkadian IV: Wisdom Literature**

ARABIC 101. Introductory Literary Arabic

See NEJS 101.

Staff

ARABIC 102. Intermediate Literary Arabic

See NEJS 102.

Mr. Levy

***COPTIC 101. Coptic Language**

EGYPTIAN 101. Elementary Egyptian

A study of Middle Egyptian based on Gardiner's grammar. The principal texts to be read are those included in Blackman's *Middle Egyptian Stories* and de Buck's *Reading-book*. In the second term some Middle Egyptian hieratic is read. *Mr. Zabkar and Staff*

***EGYPTIAN 102. Advanced Egyptian I: Selected Texts of the Ptolemaic Period**

EGYPTIAN 104b. Advanced Egyptian II: Late Egyptian Stories

Mr. Zabkar

EGYPTIAN 107a. Advanced Egyptian IV: Hymns and Poems

Mr. Zabkar

***HITTITE 101. Elementary Hittite**

***SUMERIAN 101. Elementary Sumerian**

***UGARITIC 101**

CLORS 301-305. Directed Readings

301. *Mr. Zabkar*

304. *Mr. Stewart*

302. *Mr. Todd*

305. *Mr. Muellner*

303. *Ms. Morrison*

CLORS 401-405. Dissertation Research

401. *Mr. Zabkar*

404. *Mr. Stewart*

402. *Mr. Todd*

405. *Mr. Muellner*

403. *Ms. Morrison*

COMPARATIVE HISTORY

Objectives

The graduate program in comparative history, leading to the degree of Doctor of Philosophy in History, aims to train students in the comparative approach that comprises the best tradition in historical scholarship. Comparative history builds on the development of expertise in a specific field — in this program usually early modern or modern European history — but it also involves the conceptualization and study of the past according to political, social, economic, cultural, intellectual and psychological categories that transcend parochial national or period divisions.

Through wide though carefully focused readings, students are encouraged to develop the ability to make cross-cultural comparisons across the five continents and the span of recorded time. Thus, for example, students of social mobility, institutional change, the class of ideologies, or the organization of the state will deepen their understanding of how different cultures approach, define, and resolve the issues at hand. The formal program focuses, above all, on the comparative history of Western Europe, but students will find a structured opportunity to examine the patterns of American civilization as well, and to study for comparative purposes Russia and Eastern Europe, Latin America, Africa, and the Near and Far East.

The program is designed to help students to cope with the competitive academic environment of the next decade by training them rigorously in methods of historical research and writing, by equipping them to teach the whole range of European history from the Renaissance to the present, and by fostering the intellectual flexibility and interdisciplinary skills that command a premium outside the academic marketplace.

A small, select student body will work in close cooperation with the faculty. Most instruction will take place in seminars specifically designed for graduate students or in individual conferences with faculty advisers. From the beginning, the curriculum will help students prepare for their qualifying examinations and guide them toward eventual dissertation research. Upon entrance, students will declare an intention to take qualifying examinations either in the early modern period (1450-1789) or the modern period (1715 to the present). Formal faculty offerings at present concentrate upon the modern period.

During the first year, students must prepare one research paper of publishable quality on a topic chosen in consultation with a major adviser. This paper constitutes the major intellectual enterprise of the first year, and students may allot up to half their time to it. In addition, they will enroll in a graduate colloquium that focuses on comparative problems of modern European history and American civilization from the eighteenth through the twentieth centuries. Students in the comparative program are also offered a proseminar in early modern European history and a course on comparative historiography.

Before taking the qualifying examination at the end of the second year, a student must complete at least one seminar that teaches the techniques of comparative history. In addition, he or she must complete a tutorial or other work focusing on a part of the world geographically removed from the principal area of specialization with a view to gaining a comparative perspective on the major research interest.

The qualifying examination for the Ph.D. is normally taken at the end of the second year. Students may specialize either in the early modern period (1450-1789) or the modern period (1715 to the present). But they must demonstrate a general mastery of two subject fields in western history (and non-western parallels where appropriate) from the Renaissance to the

present. The subject fields will normally be chosen from such categories as social, economic, intellectual, cultural, political, and international history.

Students should normally plan to complete all work for the doctorate, including the dissertation, within four to five years after entering the program; prolongation of study past the sixth year is discouraged.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. Students with a sound preparation in history and who have demonstrated unusual imagination and critical insight will receive special consideration. Undergraduate majors in the other social sciences or in allied fields such as comparative literature may, however, apply. Applicants should submit a sample of written work, preferably in European history. Only doctoral candidates will be accepted into the regular program. Unusually well-qualified students with distinguished records who wish to obtain a master's degree in modern history before going on to further training in such fields as law, business, diplomacy, social work, journalism or medicine, or who have already earned degrees in these fields, may also be admitted.

Faculty

Associate Professor Stephen A. Schuker, *Chairman*: Modern diplomatic, economic, political and business history.

Professor Geoffrey Barraclough: Modern and contemporary history. Political institutions. Historiography. Medieval history.

Professor Emeritus David S. Berkowitz: Early modern history. Bibliography, humanism, the Reformation and political thought.

Professor Rudolph Binion: Modern history. Culture and thought. Psychohistory.

Professor Eugene C. Black: Modern history. Political and social institutions.

Professor John P. Demos: Early modern history. Social institutions.

Professor David H. Fischer: Modern history. Social institutions.

Professor Morton Keller: Legal and political institutions.

University Professor Frank E. Manuel: Modern European intellectual history.

Professor Marvin Meyers: Ideas and politics.

Professor Milton I. Vanger: Modern Latin American history. Political institutions.

Associate Professor Gregory L. Freeze: Russia, social history.

Associate Professor John E. Schrecker: Modern Asian history. Nationalism. Imperialism.

Assistant Professor Samuel Cohn: Renaissance and early modern history.

Assistant Professor William E. Kappelle: Medieval History.

Assistant Professor Alexander Keyssar: Labor and working-class history.

Degree Requirements

Master of Arts

An M.A. degree in History will be awarded to those students who have satisfactorily completed one year of residence at full time, fulfilled the language requirement and have passed a special examination at the master's level. Students who have completed the Ph.D. qualifying examinations and the stated requirements for the master's degree automatically qualify for conferral of the master's degree.

Doctor of Philosophy

Program of Study. During the first year in the program, students will complete a major research paper, a joint colloquium in modern European history and American civilization, a proseminar in early modern Europe, and a historiography course. Within the first two years, they must also take a seminar in comparative history and fulfill the geographical outside-field requirement.

At the beginning of the third year, students will make an oral presentation setting their proposed dissertation topic in comparative perspective; this is called the "category examination." The third or fourth year in the program will, when feasible, be spent abroad pursuing research for the dissertation. Arrangements can be made for conferences with foreign scholars who can advise on the subject of research.

Language Requirement. The use of foreign languages is an essential tool for the comparative historian. Each student will be expected to pass, upon admission, one language examination testing the ability to read historical prose without a dictionary. The second language examination must be passed before the student registers for the third semester. All students must show competence in either French or German; for the second language another major tongue relevant to the student's research interests may be substituted.

Qualifying Examination. Normally the student will take the qualifying examination at the end of the second year of study. Any student who has failed to complete the qualifying examination by the sixth semester will be dropped from the program.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree when he or she has completed course and residence requirements, demonstrated proficiency in the required foreign languages, passed the qualifying examination and gained approval of his or her dissertation topic by the faculty of the program.

Dissertation and Defense. The student will normally define a dissertation topic in the term preceding the qualifying examination but in no case later than the end of the fifth semester in the program. When the student's dissertation committee accepts the completed dissertation, the candidate must defend it at a final oral examination.

Courses of Instruction

Seminars

HISTORY 190aR. Historiography

A critical analysis of classical historiography. *Required of first-year graduate students in the Comparative History and History of American Civilization programs.* Mr. Fischer

HISTORY 197aR. Seminar in Comparative History: Refugees

Introduction to the methods of Comparative History through a consideration of the problems of refugees and displaced persons in various historical contexts.

Mr. Wasserstein

HISTORY 200a. Colloquium in American and European Comparative History Since the 18th Century

Comparative examination of major historical issues in Europe and the United States from the eighteenth through the twentieth centuries. *Required of first-year graduate students in the Comparative History and the History of American Civilization Programs.*

Mr. Schuker

COMPARATIVE HISTORY 201b. Colloquium in Early Modern European History

A comparative examination of major historical problems from the fifteenth century to the French Revolution. *Required of all first-year graduate students in Comparative History.* *Mr. Cohn*

COMPARATIVE HISTORY 301a and b — 312a and b Research papers

301a and b. <i>Mr. Barraclough</i>	308a and b. <i>Mr. Vanger</i>
303a and b. <i>Mr. Binion</i>	309a and b. <i>Mr. Freeze</i>
304a and b. <i>Mr. Black</i>	310a and b. <i>Mr. Manuel</i>
305a and b. <i>Mr. Demos</i>	311a and b. <i>Mr. Cohn</i>
306a and b. <i>Mr. Fischer</i>	312a and b. <i>Mr. Kappelle</i>
307a and b. <i>Mr. Schrecker</i>	

COMPARATIVE HISTORY 321a and b — 332a and b Directed Readings

312a and b. <i>Mr. Barraclough</i>	327a and b. <i>Mr. Vanger</i>
323a and b. <i>Mr. Binion</i>	329a and b. <i>Mr. Freeze</i>
324a and b. <i>Mr. Black</i>	330a and b. <i>Mr. Manuel</i>
325a and b. <i>Mr. Demos</i>	331a and b. <i>Mr. Cohn</i>
362a and b. <i>Mr. Fischer</i>	332a and b. <i>Mr. Kappelle</i>
327a and b. <i>Mr. Schrecker</i>	

COMPARATIVE HISTORY 401-412. Dissertation Research

401. <i>Mr. Barraclough</i>	408. <i>Mr. Vanger</i>
403. <i>Mr. Binion</i>	409. <i>Mr. Freeze</i>
404. <i>Mr. Black</i>	410. <i>Mr. Manuel</i>
405. <i>Mr. Demos</i>	411. <i>Mr. Cohn</i>
406. <i>Mr. Fischer</i>	412. <i>Mr. Kappelle</i>
407. <i>Mr. Schrecker</i>	

COMPARATIVE HISTORY 500. Registration in Time

In addition, the following courses may be taken as equivalent to Comparative History seminars.

HISTORY 110a. The Civilization of the Early Middle Ages	<i>Mr. Kappelle</i>
HISTORY 110b. The Civilization of the High and Late Middle Ages	<i>Mr. Kappelle</i>
*HISTORY 115b. Seminar on Medieval Russia	
*HISTORY 123a. The Renaissance	
HISTORY 130a. The French Revolution	<i>Mr. Black</i>
*HISTORY 131b. Topics in Modern Social History	
HISTORY 132b. Modern European Thought and Culture	<i>Mr. Binion</i>
HISTORY 133a. The Enlightenment	<i>Mr. Manuel</i>
HISTORY 133b. Topics in 19th and 20th Century Intellectual History	<i>Mr. Manuel</i>
*HISTORY 136a. Europe and the Wider World, 1870-1919	
*HISTORY 139a. Women in Modern Europe	
HISTORY 141bR. Studies in British History — 1830 to the Present	<i>Mr. Black</i>

*HISTORY 142a.	Europe and the Wider World, 1920 to the Present, I	
*HISTORY 142b.	Europe and the Wider World, 1920 to the Present, II	
HISTORY 146bR.	Topics in German History: Hitler, Germany and Europe	<i>Mr. Binion</i>
HISTORY 163aR.	American Foreign Relations in the Twentieth Century	<i>Mr. Schuker</i>
HISTORY 176bR.	Why Democracy Collapses: The Uruguayan Case	<i>Mr. Vanger</i>
HISTORY 181b.	Seminar on Chinese Thought	<i>Mr. Schrecker</i>
HISTORY 182b.	Modern Southeast Asian History	<i>Mr. Steinberg</i>
HISTORY 191aR.	History and Psychology	<i>Mr. Demos</i>
HISTORY 198bR.	Science and Technology in the Twentieth Century	<i>Mr. Schweber</i>

COMPARATIVE LITERATURE

See Joint Program of Literary Studies (page 91).

CROSS-REGISTRATION AT BOSTON COLLEGE, BOSTON UNIVERSITY AND TUFTS UNIVERSITY

A full-time graduate student at Brandeis University may enroll in one graduate course at Boston College, Boston University or Tufts University. Brochures suggesting courses for cross-registration at each of the host institutions are available at the graduate school office of each institution.

A student who wishes to enroll in a course at one of these institutions should consult with the instructor in the particular course and should expect to satisfy the prerequisites and requirements normally required for admission to that course, including adherence to the academic calendar of that course.

A student at Brandeis University who wishes to enroll in a graduate course at one of the host institutions should obtain a registration permit from the Graduate School Registrar and should present this permit to the Graduate School Registrar of the host institution.

ECONOMICS

Although the University does not offer graduate study in Economics, it does offer a significant group of upper-level courses which may be of interest to graduate students in other departments. These courses receive graduate credit on permission of the student's adviser.

Courses of Instruction

ECONOMICS 22a. American Economic History

A study of the major institutions and factors which have influenced American economic growth. Selected topics and issues will be analyzed.

Mr. Evans

ECONOMICS 32b. Comparative Systems

Analysis of structure and performance of alternative economic systems. Theoretical models to be discussed are capitalism and several varieties of socialism: utopian, market, and authoritarian. Among real world analogs, extensive attention will be given to the Soviet economy; others include the Yugoslavs, the Chinese, and at least one West European "mixed" economy in which public ownership, private enterprise and some form of economic planning play substantial roles.

Mr. Schwalberg

ECONOMICS 34a. Economics of the Public Sector

Initially, consideration is given to the role of government in a market-oriented, private enterprise economy. Related discussions cover the economic role of voluntary, non-profit organizations. Whether federal, state or local government should be handling a particular function is a second concern. Third, the criteria by which the mix of government, private non-profit and private profit-making organizations are determined in delivering particular human services is a major focus of the course.

Mr. Hausman

ECONOMICS 37aR. The Political Economy of Cities

This course will consist of a formal analysis of the structure of metropolitan areas and an exploration of the set of economic and social problems that have beset city life.

Mr. Filer

ECONOMICS 38b. Economic Policy Issues

Six topics will be studied with the objective of applying tools of economic analyses to the understanding of important United States problems and to the development of responsible policy positions. The topics are 1) minority development, 2) the control of inflation, 3) energy dependence, 4) reviving productivity gains, 5) immigration, 6) the burden of the aged. There will be class presentations and discussions of alternative analyses and policies.

Mr. Weckstein

ECONOMICS 44bR. Economics of the Arts

The application of economic analysis to both the performing arts and the visual arts. We shall examine questions of productivity, public subsidy, and the nature of demand. In addition, special topics such as industry structure, pricing policies, copyright, and labor unions will be covered.

Messrs. Braunstein and Filer

ECONOMICS 57aR. The Economics of Environment and Resources

This course will deal with insights from economic theory into the optional pricing and usage of both renewable and nonrenewable natural resources. Emphasis will be placed on questions of environmental policy.

Ms. Carter

ECONOMICS 60a. International Economic Policy

Introduction to international economic analysis through policy issues. Specific policy problems, such as the protectionist response triggered by the extraordinary growth of U.S. steel imports over the past fifteen years, provide a laboratory for examining and testing theories in three main branches in international economics: trade and protection, finance and foreign exchange and development.

Messrs. Porri and Coiner

ECONOMICS 71aR. Financial Markets

The evaluation and selection of investment assets, portfolio composition, the operation of markets for financial assets and the role of specialized financial firms.

Prerequisite: ECON 8b.

Mr. Filer

ECONOMICS 74bR. Law and Economics

A study of economic foundations of American law in selected areas of interest. Topics will include: the role of property rights and liability rules in the control of externalities; controlling the cost of accidents; the control of criminal behavior; product failure and damage; medical malpractice. The effects of judgments and status will be studied.

Prerequisite: ECON 2a.

Mr. Weckstein

ECONOMICS 75aR. The Economics of Underdeveloped Countries

The economic circumstances of poor countries and their special problems: misfit technologies, income inequality, urban unemployment, and the terms of their participation in the world economy. Their policy options and the roles for rich countries are studied.

Prerequisite: ECON 2a

Mr. Weckstein

ECONOMICS 76bR. Labor Economics

This course will focus on two areas: (1) the operation of labor markets including labor supply, labor demand, unemployment, training and labor mobility; and (2) trade unionism and collective bargaining in the United States.

Prerequisite: ECON 2a.

Mr. Filer

ECONOMICS 78b. Income Maintenance Programs and Policies

An analysis of a variety of government policies to maintain the income of disadvantaged groups, and a discussion of policy alternative.

Mr. Hausman

ECONOMICS 80a. Microeconomic Theory

Analysis of the behavior of economic units within a market economy. Emphasis upon individuals' decisions as demanders of goods and suppliers of resources and firms' decisions as suppliers of goods and demanders of resources under various market structures. Considerations of related topics such as welfare and efficiency, market failure, and general equilibrium.

Section 1: Mr. Dolbear

Section 2: Mr. Coiner

ECONOMICS 80aR. Microeconomic Theory

See Economics 80a.

Mr. Schwalberg

ECONOMICS 82bR. Macroeconomic Theory

The meaning of the national income concepts; the factors determining the level of national income, employment and prices; the influence of fiscal and monetary policies; theory of economic growth.

Prerequisite: ECON 8b.

Mr. Luckett

ECONOMICS 82b. Macroeconomic Theory

See Economics 82bR.

Section 1: Mr. Coiner

Section 2: Mr. Luckett

ECONOMICS 83a. Statistics for Economic Analysis

A first course in statistical inference. Topics include descriptive statistics, probability, normal and binomial distributions, joint distributions, sampling distributions, point and interval estimation, properties of estimators, testing of hypotheses, simple and multiple regression, analysis of variance.

Prerequisite: ECON 2a.

Section 1: Mr. Ferguson

Section 2: Mr. Coiner

ECONOMICS 83aR. Statistics for Economic Analysis

See Economics 83a.

Mr. Dolbear

ECONOMICS 84b. Econometrics

An introduction to the construction and testing of econometric models. Single and multiple equation models will be treated with special emphasis on the analysis of economic time series.

Prerequisite: ECON 80a, 82b, 83a.

Mr. Luckett

ECONOMICS 86bR. Quantitative Models of the Economy

The course will examine the assumptions, structure and nature of those large scale economic models which are currently being used. These will include but not be limited to the U.N. Model developed at Brandeis, the FRB-MIT econometric model, and the Forrester-Meadows "Limits-to-Growth" model, etc.

Mr. Petri

ECONOMICS 89a. Introduction to Mathematical Economics

This course will focus on the application of mathematical techniques and tools in economics. Our purpose will be to investigate a variety of economic analyses in which mathematical techniques prove useful. Topics include optimization, linear and nonlinear programming, discounting, the mathematics of multiple regression, economic model solving and dynamic analysis.

Mr. Pulley

ECONOMICS 135aR. Industrial Organization

Economic analysis of American industry in terms of market structure, conduct and performance. Topics included are business organization, concentration, barriers to entry, price and product policies, profits, efficiency and productiveness.

Prerequisite: ECON 80a.

Mr. Braunstein

ECONOMICS 141b. The Economics of Technological Change

This course is designed to give students of economics a deeper understanding of the role of technological change in modern economic analysis and to help them to identify and analyze important issues concerning technology in the nation's economy. Topics include the representation of technological change in various production functions, studies of change at the sectoral level, interdependence of sectoral decisions, factor productivity and economic growth, technology transfer and technology assessment.

Ms. Carter

ECONOMICS 159a. Advanced Topics in the Economics of Human Resources

The origins and development of human capital theory; applications to the analysis of human inspiration, expenditure on medical care, education and on-the-job training. Models of the functioning of markets for professional manpower will be explored as well as efforts to assess the role of human capital in determining rates of economic growth and the size distribution of income. Readings will consist exclusively of articles from professional journals and monographs.

Prerequisite: ECON 80a.

Mr. Schwalberg

ECONOMICS 160aR. International Trade and Finance

Models of and evidence on international trade. Analysis of commercial policies such as tariffs, quota and preferential trading agreements. Introduction to foreign exchange markets and the balance of payments. Discussion of disequilibrium in and adjustment of the balance of payments. Brief history of the international monetary system.

Prerequisite: ECON 80a, 82b.

Messrs. Coiner and Petri

ECONOMICS 162a. Macroeconomic Aspects of Labor Theory and Policy

This course will examine issues in labor-market theory and policy that have macroeconomic implications. Inflation, structural unemployment, cyclical unemployment and productivity, as viewed from several different theoretical and empirical perspectives, will be among the topics covered.

Prerequisite: ECON 80a, 82b, 83a.

Mr. Luckett

ECONOMICS 180aR. Advanced Microeconomic Theory

In this course we will selectively consider a few advanced topics of microeconomic analysis designed to extend, refine, apply and combine the analysis of Economics 80a and 83a. For example, one topics will take us from the "certain" world of intermediate price theory to a world where decisions are made under uncertainty — fusing the techniques of decision analysis learned in 80a with a probabilistic view of the world from 81a.

Mr. Pulley

ENGLISH AND AMERICAN LITERATURE

Objectives

The graduate program in English and American literature is designed to offer training in the interpretation and evaluation of literary texts with some attention to the related scholarly disciplines, particularly history and linguistics. It also offers candidates who have some ability in writing an opportunity to pursue this interest as a normal part of the graduate program.

Admission

Candidates for admission should have a bachelor's degree, preferably with a major in English and American literature, and a reading knowledge of French, Italian, German, Greek, or Latin. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

Faculty

Benjamin B. Hoover, *Chairman*: Eighteenth century literature.

Professor Allen Grossman: Poetry and poetic structures. Seventeenth century literature. Modern and contemporary literature.

Professor Milton Hindus: American literature. Modern literature.

Professor Ray S. Jackendoff: Linguistics. Semantic theory. Music.

Professor Robert O. Preyer: Nineteenth century literature. Social and intellectual history.

Professor John H. Smith: Shakespeare. Renaissance drama. Neo-Latin literature.

Professor Peter Swiggart: American literature. Criticism theory.

Visiting Professor Christine Brooke-Rose: Narrative theory. Poetry.

Visiting Professor Joseph Wittreich: Renaissance literature.

Associate Professor Philip Fisher: Nineteenth century literature. Critical theory.

Associate Professor Michael T. Gilmore: Puritanism. Literature of the American Revolution. American renaissance.

Associate Professor Karen W. Klein: Medieval literature. Women's studies.

Associate Professor Alan Levitan, *Director of Graduate Studies*: Shakespeare. Music and drama.

Associate Professor Joan Maling: Linguistics. Syntactic theory. Historical syntax. Metrics.

Associate Professor Richard J. Onorato: Romantic literature. Modern literature.

Associate Professor Susan Staves: Restoration and eighteenth century literature.

Assistant Professor Judith Ferster: Medieval literature.

Assistant Professor Jane B. Grimshaw: Linguistics.

Assistant Professor James B. Merod: Twentieth century poetry.

Assistant Professor Daniel Schenker: Nineteenth century literature. Modern literature.

Assistant Professor Richard Yanowitz: Renaissance literature.

Lecturer (with rank of Associate Professor) Alan Williamson: Poetry.

Writer-in-Residence Alan Lelchuk: Fiction. Nineteenth century literature.

Degree Requirements

Following are the degree requirements for the Department of English and American Literature. Students should also consult the General Degree Requirements and Academic Regulations found in an earlier section of this catalog.

Master of Arts

Program of Study. Each student will take English 200a. In addition, a normal program will consist of five courses, at least three of which will be 200-level seminars. Students must also register for English 295b (Major Text Examination).

Residence Requirement. The minimum residence requirement is one year, though students with inadequate preparation may require more.

Language Requirements. A reading knowledge of a major foreign language (modern European, ancient Greek, Biblical Hebrew or Latin). The completion of the language requirements at another university does not exempt the student from the Brandeis requirement.

Qualifying Examination. An oral examination, by committees of faculty members, will be given at the beginning of the spring term on one of several major texts, the texts to be announced at the end of the fall term. This examination will test a student's ability to read and understand a major literary work or a group of short works by the same author. Admission to the Ph.D. program in addition to qualification for the M.A. degree will depend upon the results of this examination, in addition to course evaluation.

Doctor of Philosophy

Admission to the Ph.D. Program. (1) Students who complete, with distinction, the M.A. requirements at Brandeis University are admitted to the Ph.D. program by the Department upon recommendation of the Committee on Graduate Studies.

(2) Students who enter with a master's degree or a full year of graduate work in English from another university are required to fulfill the qualifying examination requirement described above under the Master of Arts Program. Provided this requirement is fulfilled, such students may, at the Department's discretion, be admitted to the Ph.D. program after successful completion of a semester at Brandeis and upon recommendation by the Committee on Graduate Studies. At the time of admission up to a year's residence and course credit for work completed elsewhere may be granted.

Program of Study. Second year students continue to take courses, usually two a semester. Students have an obligation to review their preparation in the field with their advisers and to ensure that they are acquiring both a comprehensive knowledge of the various historical periods and genres of English and American literature and a more profound knowledge of the particular period or field they propose to offer as a specialty. With the exception of English 200, no specific courses are required of all Brandeis Ph.D. candidates; each student's program

will be designed in the light of the strengths and weaknesses of his or her previous preparation and in accord with his or her own interests.

A student who comes to Brandeis with a B.A. is required to take 12 courses for the Ph.D.; a student who comes with an M.A. is normally required to take 8 courses at Brandeis.

Dissertation Field Examination. All candidates for the Ph.D. will be asked to pass an oral examination in the historical period or genre in which the candidate expects to write a dissertation. This examination is normally taken in the semester following satisfaction of the residence requirement, but it may be postponed upon approval by the Director of the Graduate Program. The examination may be taken as many times as necessary without prejudice to a student's standing in the Ph.D. program.

Residence Requirement. The minimum residence requirement is one year beyond the master's degree or two years beyond the bachelor's.

Other Requirements

Language Requirement. In addition to the language requirement that has been met for admission to the Ph.D. program, the student must (1) demonstrate a reading knowledge of a second major foreign language; or (2) demonstrate an advanced competence in the first foreign language and a knowledge of its literature.

Training in Teaching. Provided openings exist, students in their second and third year in the program can expect to be awarded at least one teaching assistantship each year, provided their academic work is of high calibre.

Admission to Candidacy. A student will be recommended by the Department for admission to candidacy for the Ph.D. degree after completing with distinction the program of study and satisfying all departmental requirements prior to the writing and defense of a dissertation. A student admitted to candidacy must have submitted a formal dissertation proposal, subject to approval by the student's dissertation director and by an additional member of the departmental faculty.

Dissertation and Defense. Each student will submit a dissertation in a form approved by his or her dissertation director and by a committee appointed by the Director of Graduate Studies. The student will defend the dissertation at a final oral examination. The dissertation may be a monograph, a series of closely related essays, a bibliographical project or a textual project.

History and Structure of English

The Department also offers an alternative program in the history and structure of the English language, with specialization in Old, Middle, or Early Modern English. For details, address the chairman of the Department.

Courses of Instruction

*ENGLISH 120bR. The Tradition of the Short Poem in English

*ENGLISH 122a. Old English

*ENGLISH 122b. Old English Epic

*ENGLISH 123a. Renaissance Poetry

*ENGLISH 127a. D.H. Lawrence and Virginia Woolf

***ENGLISH 127bR. The Contemporary and the Avant-Garde**

***ENGLISH 129a. Directed Writing: Poetry and Prose**

***ENGLISH 129b. Directed Writing: Poetry and Prose**

ENGLISH 132bR. Chaucer

A study of Chaucer's poetry in its literary, philosophical and historical context. The poems, which will be read in English, are *Troilus and Criseyde* and selected tales from *The Canterbury Tales*.
Ms. Klein

ENGLISH 133aR. Advanced Shakespeare

An intensive analysis of a small number of Shakespeare's plays.

Mr. Levitan

***ENGLISH 134a. The Women of Letters in the Eighteenth Century**

***ENGLISH 135a. Romantic Poetry**

ENGLISH 135bR. Romanticism

This will be a discussion course focusing on the writing of three of the high British Romantic poets — Wordsworth, Shelley and Keats. In addition, we will consider several philosophical and aesthetic issues which the Romantic Period inherited and which it, in turn, handed on to contemporary Poet-Romantic though in distinctly more puzzling terms.
Mr. Merod

***ENGLISH 136a. Whitman and his Archive**

***ENGLISH 137a. Twentieth Century Poets: Frost, Eliot, Pound**

***ENGLISH 142a. Intention and Interpretation in Medieval Literature**

***ENGLISH 142b. Medieval European Drama**

***ENGLISH 143a. Elizabethan and Jacobean Drama**

ENGLISH 143bR. English Drama before Shakespeare

A representative selection of medieval and Tudor plays (liturgical, miracle, mystery, morality, interlude, early and transitional comedy and tragedy).

***ENGLISH 145b. Victorian Poetry and Poetics**

***ENGLISH 147a. Faulkner and Fitzgerald**

***ENGLISH 147bR. American Drama**

This course will concentrate upon plays by O'Neill, Williams, Miller and Albee.

Mr. Swiggart

***ENGLISH 148b. Classical Background of English Literature**

ENGLISH 151bR. Contemporary Critical Theories

This seminar will explore a number of recent critical theorists — Lionel Trilling, Geoffrey Hartman, Rene Girard, Paul de Man, Maurice Merleau-Ponty, Susan Sontag, Michel Foucault and Jacques Derrida — in the context of problems raised by several older critics: Friedrich Nietzsche, Walter Benjamin, Kenneth Burke, and Jean-Paul Sartre. The main purpose of the course will be to give the student a view of the critical theory against the practical constraints of reading. Required: a brief oral report, two short essays and a final examination.
Mr. Merod

***ENGLISH 153b. Milton**

***ENGLISH 155a. Women as Men of Letters in Nineteenth Century England**

***ENGLISH 156a. Dissent in American Literature: From the Revolution to the Civil War**

ENGLISH 157a. Lowell and His Generation

A close reading of poetry by Lowell, Ginsberg, Plath, Roethke, Berryman and Jarrell. Emphasis will be given to question of form and innovation; and to the role of "confessional" subject matter, and its effect on the poets' vision of history. *Mr. Williamson*

***ENGLISH 157b. Modern British Drama and Theatre**

***ENGLISH 158aR. American Poetry**

ENGLISH 161a. Theory of the Fantastic

This is a course in narrative theory, but will concentrate on the Fantastic. Some basis in general narrative theory would be an advantage, and students should read at least Propp's *Morphology of the Folktale* and Barth's *S/Z*, transl. Richard Miller. We shall center the course on the Fantastic as defined by Todorov, but see whether and how we can go beyond Todorov's narrow definition, especially with regard to modern versions of the Fantastic. *Ms. Brooke-Rose*

***ENGLISH 163a. Seventeenth Century Poetry**

***ENGLISH 164R. Restoration Drama**

***ENGLISH 167a. The Irish Literary Renaissance**

ENGLISH 168a. Native American Literature

See COLIT 193a.

Mr. Yglesias

***ENGLISH 171b. Literary Movements**

ENGLISH 173a. Literary and Intellectual Ferment in the English Renaissance

We will survey various forms of English literature from 1500 to 1660. We will discuss such topics as the role of the writer in society, the integration of classical and Christian thought, ideal and real worlds, the impact of the Reformation, and magic and science. Writers will include More, Bacon, Shakespeare, Marlowe, Donne, Spenser, Milton (including *Paradise Lost*) and Herbert. *Mr. Yanowitz*

ENGLISH 174b. Eighteenth Century Novel

Early developments in English fiction with some attention to theories of narrative and problems in the practical criticism of the novel. Emphasis on Defoe, Richardson, Fielding, Sterne and Austen. *Mr. Hoover*

ENGLISH 175b. City and Psyche in Victorian Literature

An examination of the shock of urban living on early inhabitants of industrialized society. The course will cover rural and small-town experience, life in London and, finally, sea adventures and English contact with the "Third world". Writers include Mrs. Gaskell, Dickens, Gissing, Hardy, Trollope, Elliot, Conrad, Stevenson, Kipling. *Mr. Preyer*

***ENGLISH 176a. Hawthorne and Melville**

ENGLISH 176b. Hawthorne, Melville and Poe

Readings will include *Moby Dick*, *The Narrative of Arthur Gordon Pym*, *The Scarlet Letter*, and *The Marble Faun*, as well as stories and short novels by all three authors.

Mr. Swiggart

ENGLISH 177b. Contemporary Women Writers

This course studies poetry and prose by women from the 1940's to the present day in terms of socio-cultural context, literary traditions and feminist criticism. Among the authors read are Lessing, Levertov, Rich, Atwood, Walker, Broumas, Hawley and Olsen. Significant writers from earlier in this century: Woolf, Rhys, Colette, will also be included.

Ms. Klein

***ENGLISH 178a. Literature and Language Meaning**

***ENGLISH 185aR. Dickens and Dostoevsky**

ENGLISH 187a. The Modern Novel I

This course will cover the emergence of the modern novel, including works by Conrad, Forster, Woolf, Lawrence, Ford, Mann, Proust, Joyce.

Mr. Onorato

ENGLISH 187b. The Modern Novel II

This course will continue covering the emergence of the modern novel, including works by Joyce, Stein, Gide, Kafka, Hemingway, Fitzgerald, Faulkner, Camus, Sartre, Beckett and Nabokov.

Mr. Onorato

***ENGLISH 198aR. History of the English Language**

Seminars

ENGLISH 200a. Methods of Literary Study: Eighteenth Century Poetry and Prose

Required of all first-year graduate students

Mr. Hoover

***ENGLISH 201a. History and Theory of Criticism: The Old Tradition**

ENGLISH 201bR. History and Theory of Criticism: The Development of Modern Critical Theories

See Literary Studies 201b.

Mr. Engelberg

ENGLISH 221b. Feminist Criticism

Participants in this seminar will involve themselves in a study of what constitutes feminist criticism in regard to content, perspective, and the relation of criticism to our lives. General readings for the seminar will be drawn from sociology, psychology and literature written by British, American and French feminists. Each member of the seminar will present a paper which demonstrates feminist criticism of a literary work.

Ms. Klein

ENGLISH 227a. Modern Poetry

Mr. Grossman

ENGLISH 228b. American Poetry

Walter Whitman, Ezra Pound and successors.

Mr. Hindus

ENGLISH 233a. Shakespeare

Mr. Levitan

ENGLISH 241a. Theories of Narrative

Early narrative theory (Russian formalists) to the present. Some knowledge of French and some experience in theoretical thinking would be an advantage but not a requirement. Vladimir Propp, Wayne C. Booth, Roland Barthes, *S/Z* (transl. Richard Miller), Gerard Genette, Philippe Hamon, Boris Uspensky, Makhail Bakhtin, Melville, Washington Irving, Henry James, Ralph Ellison, John Barth. *Ms. Brooke-Rose*

ENGLISH 253b. Milton

Mr. Wittreich

ENGLISH 257b. Experimental Novel

This seminar will take its departure from Zola's idea of the novel as a scientific experiment, a form of research. Concentrating on Joyce and Dreiser but including novels by other writers in the period 1900-1930, this seminar will consider naturalism, experimentalism, the novel as a document, the strategy of the Avant-Garde and the intellectual and theoretical context for the novel in the early twentieth century. *Mr. Fisher*

ENGLISH 295b. Studies in a Major Text

Required of all first year students.

Mr. Hoover

ENGLISH 352-369a and b. Directed Research

352a and b. <i>Mr. Hindus</i>	361a and b. <i>Mr. Onorato</i>
353a and b. <i>Mr. Hoover</i>	362a and b. <i>Ms. Staves</i>
354a and b. <i>Mr. Preyer</i>	363a and b. <i>Mr. Schenker</i>
355a and b. <i>Mr. Smith</i>	364a and b. <i>Ms. Ferster</i>
356a and b. <i>Mr. Swiggart</i>	365a and b. <i>Mr. Fisher</i>
357a and b. <i>Mr. Grossman</i>	366a and b. <i>Mr. Gilmore</i>
358a and b. <i>Mr. Jackendoff</i>	367a and b. <i>Mr. Lechuk</i>
359a and b. <i>Ms. Klein</i>	368a and b. <i>Ms. Maling</i>
360a and b. <i>Mr. Levitan</i>	369a and b. <i>Mr. Merod</i>

ENGLISH 402-419. Dissertation Research

402. <i>Mr. Hindus</i>	411. <i>Mr. Onorato</i>
403. <i>Mr. Hoover</i>	412. <i>Ms. Staves</i>
404. <i>Mr. Preyer</i>	413. <i>Mr. Schenker</i>
405. <i>Mr. Smith</i>	414. <i>Ms. Ferster</i>
406. <i>Mr. Swiggart</i>	415. <i>Mr. Fisher</i>
407. <i>Mr. Grossman</i>	416. <i>Mr. Gilmore</i>
408. <i>Mr. Jackendoff</i>	417. <i>Mr. Lechuk</i>
409. <i>Ms. Klein</i>	418. <i>Ms. Maling</i>
410. <i>Mr. Levitan</i>	419. <i>Mr. Merod</i>

FRENCH

See Joint Program of Literary Studies (page 91).

GERMAN

See Joint Program of Literary Studies (page 91).

HISTORY

See Comparative History (page 72).

HISTORY OF AMERICAN CIVILIZATION

Objectives

The graduate program in the History of American Civilization, leading to the degree of Doctor of Philosophy in History, has been designed primarily to educate professional scholars and teachers of American history. The curriculum emphasizes both a comprehensive understanding of American history and the mastery of historical research and writing. For a comparative view of the American experience, students will undertake selective studies in modern European, Asian, Latin American or African history. A related field of study will be defined, according to individual background and interest, in one of the following ways:

1. Training in one of the disciplines of the social sciences or humanities — politics, international relations, or literature, for example — to provide perspectives and methods that can illuminate historical problems.

2. A thematic field in American history, involving a distinctive subject matter and discipline: for example, American social history, American legal and constitutional history, American intellectual history, or American art and architecture.

3. A topic in comparative history, involving a distinctive subject matter and discipline: 20th century British and American literature, for example, or 19th century emigration/immigration, or 18th century American and European political and social philosophy.

A small, select student body works closely with the faculty in independent reading and research courses. From the beginning, individual programs are developed to prepare students for their qualifying examinations and to guide them toward their dissertation research. Normally, the first year's work is concentrated in American history, including substantial experience in directed research and a critical approach to problems of historiography. Second year students, while pursuing further directed research, chiefly are encouraged to choose courses to complete their preparation in the examination fields. Studies in related fields are arranged individually with appropriate members of the University's Graduate Faculty, either through standard courses or directed readings. For selected students with appropriate qualifications, there are opportunities for advanced study and research with distinguished scholars at neighboring universities in such fields as legal history and business history. Applicants should note with care the four parts of the examination, specified under *Degree Requirements*, in which all students are expected to demonstrate proficiency.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of the catalog, apply to candidates for admission to this program. An undergraduate major in history is the preferred preparation for admission, and the student's undergraduate curriculum should include some fundamental courses in American history and related fields in the social sciences or humanities. Students with the M.A. in history, or a professional degree in law, or other related fields are especially invited to apply. Students interested in Crown Fellowships or in the special arrangements for study in professional fields at neighboring universities, noted above, should submit applications by February 15.

Faculty

Executive Committee and Staff

Professor Marvin Meyers, *Chairman*: Ideas and politics. Jacksonian America.

Professor John P. Demos: Family and community. Colonial America.

Professor David H. Fischer: Social and political structure. Early Republic.

Professor Morton Keller: Legal and political institutions. Modern America.

Associate Professor Gerald S. Bernstein: American art and architecture.

Assistant Professor Alexander Keyssar: Labor and working-class. Modern America.

Assistant Professor James T. Kloppenberg: Modern intellectual history.

Degree Requirements

Master of Arts

No one will be accepted in the program who is not a doctoral candidate. Applications from persons seeking a terminal M.A. degree are not welcome. However, the M.A. degree in History may be awarded to those who (1) have successfully completed one full year of residence at Brandeis University (eight half-courses), including two 200-level research courses, and (2) have passed the foreign language requirement.

Doctor of Philosophy

Program of Study. Doctoral candidates must complete two years in residence at Brandeis, and a minimum of sixteen half-courses. Programs of study and concentration will be formulated for each student, subject to the approval of the Executive Committee. Students will be required to maintain an average of B- or better in order to continue in the program. Continuance of fellowship support requires an average of A- or better. Incoming students normally will be expected to take one full course of Directed Research in American History in their first year of residence. The Committee may, at its discretion, grant a student transfer credit of up to one year toward the Ph.D. residence requirement for relevant graduate or professional work done elsewhere. Application for such credit shall be considered only after a student has completed one semester's residence in a full-time program. The second 200-level Directed Research course may be waived by the committee on the basis of a master's thesis or comparable research project at the graduate or professional level done elsewhere.

Language Requirement. A high level of reading proficiency in one foreign language is required of all students. Students are expected to pass the language examination during the first year of residence. A student who has not passed the foreign language examination by the end of the first year is not eligible for financial aid from the University for the second year. The completion of language requirements at another university does not exempt the candidate from the Brandeis requirement.

Quantitative Methods. All students in the program are urged, but not required, to attend the summer training in quantitative methods at the Newberry Library, Chicago, Illinois. In past years, limited funds have been made available to defray expenses of students who choose to participate in the program.

Qualifying Examination. Each doctoral candidate must pass at the doctoral level a qualifying examination in the following four fields: (1) general American history, one examiner will be in early American history and the other in modern American history; (2) a period of specialization in American history; (3) an area of comparative modern European, Asian, Latin American or African history; (4) a related field of study, involving one of the disciplines in the social sciences or the humanities. (Note the three alternative approaches for the fourth field specified under Objectives.) The period of specialization will normally be selected from the following: 1607-1763, 1763-1815, 1815-1877, 1877-1914, 1914-present. The special period may be redefined on request, for good academic reasons. All proposed fields must be submit-

ted in writing and approved by the Executive Committee. Students entering the program without previous graduate training in American history are expected to take the Qualifying Examination no later than the end of their fifth semester of residence and must pass the examination by the end of the sixth semester. Students who have earned an M.A. in history elsewhere, or who have one year of transfer credit for work taken elsewhere, are expected to take and pass the Qualifying Examination by the end of their second year in the program.

Unless the student elects a single three-hour oral examination on all four fields, the Qualifying Examinations will be taken separately in each of the fields, with the general American field coming at the end. For each of the fields (2), (3), and (4), as above, the student will choose one appropriate professor with the approval of the chairman of the program. That professor, in consultation with the student, will define the requirements, course of preparation, and mode of examination (written and/or oral) for the field.

For the general American field, the Chairman will appoint two members of the Executive Committee as examiners. The student may choose a one-hour oral examination or a three-hour written examination followed, if the examiners so require, by an oral examination. In either case, the two professors in consultation with the student will define in advance the major themes or problems on which the examination will be based. So far as possible, fields (3) and (4), as above, should be selected with a view to broadening and deepening the student's understanding of his or her American history fields, and providing valuable background for the dissertation work.

With the consent of the Chairman and the professor concerned, qualified students in appropriate cases may be examined in fields (3) or (4), as above, by a faculty member at another university. Moreover, with the consent of the Executive Committee, examinations in fields (3) or (4), as above, may be waived for students with the M.A., J.D., or other advanced degrees that represent a level or kind of training and achievement fully equivalent to those required in the Brandeis examinations for those fields.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree upon satisfactory completion of the following: course and residence requirements, demonstration of a high level of proficiency in one foreign language, the qualifying examinations, and when the prospectus for a dissertation is approved by the Executive Committee.

Dissertation and Defense. When the dissertation is accepted by the Committee, a final oral examination will be scheduled at which the candidate must successfully defend his or her dissertation before the Committee and other members of the faculty who may participate. After a candidate has successfully defended the dissertation, he or she will give a public lecture.

Courses of Instruction

HISTORY 190aR. Historiography

A critical analysis of classical historiography. *Required of first-year graduate students in the History of American Civilization and Comparative History programs.* Mr. Fischer

HISTORY 200a. Colloquium in American and European Comparative History Since the 18th Century

Comparative examination of major historical issues in Europe and the United States from the eighteenth through the twentieth centuries. *Required of first-year graduate students in the History of American Civilization and Comparative History programs.*

Mr. Schuker

HISTORY 201aA-208aA. Directed Research in American History

Students will normally elect one of the following in the fall term of the first and the second years. Each is designed to provide experience in designing, researching and writing a substantial essay of a monographic character, based on extensive use of sources. This is the equivalent of a full course and extends the due date for the final draft of the paper to March 1, to permit sufficient time for a major project. Specific research topics are selected by the student in consultation with the professor.

201aA. Topics in American Art and Architecture *Mr. Bernstein*

203aA. Topics in American Colonial History *Mr. Demos*

204aA. Topics in Social History, with Emphasis on the Early Republic *Mr. Fischer*

205aA. Topics in Modern America *Mr. Keller*

207aA. Topics in Political and Social Thought, with Emphasis on the Period 1750-1850

208aA. Topics in Modern American Labor: Working-Class History *Mr. Keyssar*

HISTORY 290aA. Topics in Modern Intellectual History *Mr. Kloppenberg*

HISTORY 301-309. Readings in the History of American Civilization

The following are available in either semester:

301a or b. <i>Mr. Bernstein</i>	305a or b. <i>Mr. Keller</i>
303a or b. <i>Mr. Demos</i>	307a or b. <i>Mr. Meyers</i>
304a or b. <i>Mr. Fischer</i>	308a or b. <i>Mr. Keyssar</i>
	309a or b. <i>Mr. Kloppenberg</i>

The following readings courses are offered on a regular basis to groups of students who wish to use them in order to prepare for their general examinations.

HISTORY 313-319. Readings in the History of American Civilization

313a or b. Colonial History, 1607-1750	<i>Mr. Demos</i>
314a or b. American Social History, 1750-1870	<i>Mr. Fischer</i>
315a or b. Political History, 1870-present	<i>Mr. Keller</i>
317a or b. American Intellectual History, 1750-1870	<i>Mr. Meyers</i>
318a or b. American Social History, 1870-present	<i>Mr. Keyssar</i>
319a or b. American Intellectual History, 1870-present	<i>Mr. Kloppenberg</i>

HISTORY 401-409. Dissertation Research

401. <i>Mr. Bernstein</i>	405. <i>Mr. Keller</i>
403. <i>Mr. Demos</i>	407. <i>Mr. Meyers</i>
404. <i>Mr. Fischer</i>	408. <i>Mr. Keyssar</i>
	409. <i>Mr. Kloppenberg</i>

For courses available to History of American Civilization students in other historical areas, see the listings by departments and programs in the Graduate School and College catalogs, especially under Comparative History and History of Ideas.

In addition, the following courses may be taken as equivalent to History of American Civilization seminars:

***HISTORY 150aR. Colonial America: People, Culture and Society**

HISTORY 151a. The Founding of the American Republic *Mr. Meyers*

***HISTORY 151b. Male and Female in the American Past**

- *HISTORY 152b.** Democracy in America: Tocqueville and The Age of Jackson
- *HISTORY 154b.** The History of Modern America
- *HISTORY 156a.** American Society: An Analytical History, 1607 to the Civil War
- *HISTORY 156b.** American Society: An Analytical History, Civil War to the Present
- *HISTORY 158a.** Working Class History in the United States
- *HISTORY 159a.** Immigration and Immigrants in American History
- *HISTORY 159b.** Family and Society in American History
- *HISTORY 160aR.** Adams and America
- HISTORY 161a.** The American Political Tradition: Origins of the Civil War *Mr. Meyers*
- *HISTORY 161bR.** The American Polity
- HISTORY 162b.** The American Political Tradition Since the Civil War *Mr. Kloppenberg*
- HISTORY 163aR.** American Foreign Relations in the Twentieth Century *Mr. Schuker*
- *HISTORY 167b.** Topics in American Legal History
- HISTORY 169a.** Thought and Culture in Modern America *Mr. Kloppenberg*
- HISTORY 169bR.** Topics in American Intellectual History, 1880-1920:
Politics and Ideas *Mr. Kloppenberg*
- HISTORY 191aR.** History and Psychology *Mr. Demos*

JOINT PROGRAM OF LITERARY STUDIES

Comparative Literature, French, German, Russian and Spanish.

Objectives

The joint program of literary studies normally accepts only students who declare themselves for the Ph.D. degree in one of the areas listed above. Interdisciplinary in design, the program aims to train literary scholars and teachers whose professional capabilities will be broader than their individual specialties. Students will have the opportunity to study the theory of literature, history and theory of literary criticism, and scholarly methodology in addition to the specific literatures in which the degree will be earned. A small and carefully selected student body will work closely with the faculty of the program and with one another in a core curriculum before specializing. Students are encouraged to plan an individual program of studies within their field of interest in consultation with their adviser(s). Although the program encourages individual initiative, with the advice and consent of adviser(s), it should be stressed that all students, whatever their areas, must master the basic literature, primary and secondary, in their field. The General Examinations will assume both breadth and depth of such knowledge. (Reading lists for each area are available.)

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this program. Applications must be received no later than March 1. Please be sure to mark clearly the *area* of your choice (Compar-

ative Literature, French, German, Russian or Spanish) on the application form. Each applicant must submit at least *one* college-level essay on a literary subject (which may be written in English) as a sample of work.

Faculty

Committee:

Professor Denah Lida, *Chairwoman* (Spanish)

Professor Edward Engelberg (Comparative Literature)

Professor Murray Sachs (French)

Associate Professor Robert Szulkin (Russian)

Professor Harry Zohn (German)

In addition, all faculty members of the Departments of Germanic and Slavic Languages and Romance and Comparative Literature participate in this program.

Degree Requirements

Master of Arts

Only doctoral candidates will be accepted into the program. However, students who have completed two years of full-time study in residence may be awarded the M.A. degree. Such students must be in good standing (no incompletes). In addition, such students must have passed the language requirement, either by certification and/or examination, as follows: single area candidates: *one* foreign language *other* than the major language; comparative literature candidates: *two* foreign languages *other* than the major language. Finally, such students must have passed satisfactorily the Qualifying Examinations. (Students who receive this M.A. will be expected to demonstrate to the satisfaction of the Committee substantial competence in *one* of the areas of the program: e.g., Spanish, Russian, French.)

Doctor of Philosophy

Program of Study. Individual programs of study will be arranged between students and their advisers. The core curriculum consists of several elements: all students in the Program are obligated to enroll in Literary Studies 201 (The History and Theory of Criticism); all students will be held responsible for certain works on literary theory, literary history, aesthetics (not studied in the criticism seminars) at the time of General Examination.

Although the Program is designed to permit students to develop their studies coincident with their interests and talents, and in consultation with their adviser(s), full-time students are expected to enroll in at least *three* literary studies seminars each year during the first two years of residence. In addition to Literary Studies 201, first year students are expected to augment this schedule with *at least* one or two additional seminars from the literary studies offerings.

Residence Requirements. The minimum residence requirement is two years of full-time study beyond the bachelor's degree. Additional course work during the third year is generally recommended.

Language Requirement. Students will be asked to demonstrate a reading competence in *at least* two foreign languages to be determined in consultation with their advisers. In certain areas of specialization, additional languages (e.g., Latin) may become necessary research tools. (Comparative literature students should consult the special statement on language require-

ments below.) Students must be certified in at least one language by the end of the first year in residence.

Qualifying Examinations. Qualifying examinations must be taken at the start of a student's second full year in residence, with the purpose of determining that the student is qualified to study literature productively at the doctoral level. Only students who have a complete and satisfactory record for their first year will be permitted to take the Qualifying Examinations. *No postponement of these examinations is allowed.* The examinations are both written and oral, and will be scheduled each year for the third or fourth week in September. The examinations are prepared and conducted by a three-member faculty committee chosen at the end of the first year of study by the candidate in consultation with the candidate's faculty adviser. At the outcome of the examination, the candidate receives a detailed written evaluation from the three-member committee, based on the written and oral performances and on the entire record of the candidate's first year in residence.

General Examinations. Students may take the General Examinations, which demonstrate full competency in their chosen discipline, whenever they and their advisers feel they can appropriately do so. However, all students are expected to have completed the General Examinations no later than the fall semester of their fourth year in residence. Examinations will be offered twice each academic year, in October and May, and will consist of three written examinations and an oral examination. Details about the contents and procedures are available on request.

Admission to Candidacy. Candidates will be recommended for admission to candidacy when the residence and language requirements have been met, the General Examinations have been successfully passed, and a prospectus of the candidate's proposed dissertation topic has been approved by a committee of the area concerned.

Dissertation and Defense. The completed dissertation must be read and found acceptable by its director and two other readers before the candidate is eligible for the Final Oral Examination. The Final Oral Examination will be conducted by a committee of not less than four, one of whom must come from outside the candidate's area.

Teaching. All students in the program are expected to do some supervised teaching, either as a teaching assistant or by means of other arrangements. In some areas, where teaching assistantships may at times be unavailable, students will be expected to fulfill some teaching opportunities (occasional class lectures, for example) without remuneration.

For Candidates in Comparative Literature.

1. Any student in the program who declares candidacy in comparative literature should decide, as soon as possible, on a *major* and *minor* literature. The *major* literature must be one of those offered by either the Department of German and Slavic Languages or Romance and Comparative Literature (but not Italian). The *minor* literature may be Italian, English, American or any other literature offered by the University. Exact "proportions" cannot be stated in advance and will be worked out in consultation between students and adviser(s).

2. Candidates in comparative literature are expected to take three language examinations as follows:

a. The major language, which should be near level of mastery (reading, writing and speaking) on acceptance to the program. Students may simply be "certified" for this language if their level of competence is obvious.

b. The second foreign language should be mastered as a reading language with a fluency that will permit easy access to all primary and secondary literature in the specified area.

c. The third foreign language should be a reading tool for primary and especially secondary materials.

It is quite possible that for certain areas of specialization — Medieval, Renaissance, etc. — additional languages will become necessary (e.g., Latin, Catalan, Old French).

Courses of Instruction

***LITERARY STUDIES 200a. Methods of Research**

***LITERARY STUDIES 201a. History and Theory of Criticism: The Old Tradition**

LITERARY STUDIES 201b. History and Theory of Criticism: The Development of Modern Critical Theories *Mr. Engelberg*

LITERARY STUDIES 202bR. Fiction: Theory and Practice *Mr. Sachs*

LITERARY STUDIES 203aR. Romantic Phenomena *Mr. Engelberg*

***LITERARY STUDIES 204b. Theory and Practice of Literary Translation**

***LITERARY STUDIES 205a. Crosscurrents in the French and English Enlightenments**

***LITERARY STUDIES 206b. The Comic in Literature: Theory and Practice**

***LITERARY STUDIES 207a. Marxist Criticism: Literature and Society in Early Modern Europe**

***LITERARY STUDIES 208b. Cervantes in his European Context: Heritage and Lineage**

***LITERARY STUDIES 209a. Modern Phenomena**

LITERARY STUDIES 210bR. Genesis and Development of a Myth: Don Juan *Ms. Lida*

***LITERARY STUDIES 211a. The Tragic in Literature**

LITERARY STUDIES 212b. Techniques of Stylistic Analysis *Mr. Frey*

LITERARY STUDIES 301-305. Readings in Area Studies: Tutorials

301a and b. Comparative Literature. Readings in Comparative Texts

Mr. Engelberg and Staff

302a and b. French. Readings in French Texts

Mr. Sachs and Staff

303a and b. German. Readings in German Texts

Mr. Zohn and Staff

304a and b. Russian. Readings in Russian Texts

Mr. Szulkin and Staff

305a and b. Spanish. Readings in Spanish Texts

Ms. Lida and Staff

LITERARY STUDIES 351-355. Directed Research

Open to advanced graduate students with the consent of the instructor and the Chairman of the Literary Studies Program.

351a and b. Comparative Literature

Mr. Engelberg and Staff

352a and b. French

Mr. Sachs and Staff

353a and b. German

Mr. Zohn and Staff

354a and b. Russian

Mr. Szulkin and Staff

355a and b. Spanish

Ms. Lida and Staff

Following is a list of selected courses in each of the areas that constitute the Joint Program of Literary Studies, which may be of special interest to graduate students. For a full list of all courses available consult the undergraduate catalog under Departments of Germanic-Slavic Languages and Romance and Comparative Literature.

Comparative Literature

*COMPARATIVE LITERATURE 102a. Love in the Middle Ages

COMPARATIVE LITERATURE 103b. The Search for Order in the Renaissance

Survey of several key writers and intellectual problems in 15th through 17th century Europe and England. Some of the topics: paganism and Christianity, the attempt to define a "self," change and permanence, rational and non-rational ways of thought, ancient thought vs. the rise of modern scientific tradition. Authors include Pico, Castiglione, Machiavelli, Rabelais, Montaigne, Erasmus, More, Marlowe, Shakespeare, Spenser, Galileo and Newton.

Mr. Yanowitz

COMPARATIVE LITERATURE 104a. Classicism and Rationalism

France and England between the old and the new, the Ancient and the Modern. Imagination challenges tradition in an age of dawning capitalism and scientific discovery. Authors will include Bacon, Aphra Behn, Cyrano de Bergerac, Descartes, Hobbes, Jonson, Locke, Molière, Pascal, Racine.

Ms. Harth

COMPARATIVE LITERATURE 105b. Crisis of Conscience: 1715-1830

Intellectuals and the rise of the bourgeoisie in France and England. The exotic, the utopian, the revolutionary, the scientific, the satirical as new modes of expression responding to a new consciousness, in works by Sterne, Defoe, Montesquieu, Rousseau, Mary Wollstonecraft, William Godwin, Beaumarchais, Diderot, Swift.

Ms. Harth

*COMPARATIVE LITERATURE 106a. The "Double" Perspective of Reality: European Romanticism

*COMPARATIVE LITERATURE 107b. Tradition and Revolution: Themes in European Modernism

*COMPARATIVE LITERATURE 125aR. Women in Literature

*COMPARATIVE LITERATURE 133bR. Aristocratic and Popular Drama in Japan and the West

*COMPARATIVE LITERATURE 137a. Dada and Surrealist Practice

*COMPARATIVE LITERATURE 141b. The Picaresque Novel

*COMPARATIVE LITERATURE 144b. The Outsider as Artist and Lover

COMPARATIVE LITERATURE 146a. Structures of the Family in Literature

A study of the family motif as a structural element in modern literature. Sociological as well as literary theory, developed through several classical plays, will be focused on works of modern fiction, including works by Balzac, Maupassant, Mann, Kafka, Faulkner.

Mr. Kassell

*COMPARATIVE LITERATURE 148bR. Modern European Lyric

*COMPARATIVE LITERATURE 150aR. The Bildungsroman

***COMPARATIVE LITERATURE 156b. Early European Narrative Forms**

***COMPARATIVE LITERATURE 158b. Images of Latin America in Twentieth Century Fiction**

COMPARATIVE LITERATURE 170b. Modern Tragedy

Historical analysis of the development of tragedy from Bücher to Beckett. Readings in realistic tragedy (Strindberg, Ibsen, Miller); poetic tragedy (T.S. Eliot, Lorca, W.B. Yeats); modern versions of ancient myths (O'Neill, Sartre).

Mr. Engelberg

COMPARATIVE LITERATURE 175bR. The Psychological Novel

A study of how fictional techniques shape psychological complexities of character and theme in fiction: Mme. de la Fayette, Goethe, Stendhal, Dostoevsky, James, Hesse, Woolf, Robbe-Grillet, Faulkner.

Mr. Engelberg

***COMPARATIVE LITERATURE 180a. Versions of the "Absurd"**

COMPARATIVE LITERATURE 185aR. Dickens and Dostoevsky

COMPARATIVE LITERATURE 192aR. The Faust Theme in European Literature

The development of the Faust theme from its inception as a variant of devil's pact literature during the eleventh century through its post-World War II treatment, artistic and literary. The course ranges from the chapbook on the historical Dr. Faust, via Marlowe's and Goethe's dramas, to modern treatments by Valéry and Thomas Mann.

Mr. Hofmeister

COMPARATIVE LITERATURE 193a. Native American Literature

Representative works, traditional and modern, ranging from Navaho ceremonial through Black Elk's autobiography and up to important modern novels like N. Scott Momaday's *House Made of Dawn* will be read with a view to establishing a composite picture of human experience, sacred and profane, as configured by the Native America imagination. The course will serve as an introduction to a vast, important and little understood part of our heritage and will raise more questions than it can answer.

Mr. Yglesias

***COMPARATIVE LITERATURE 194aR. Social Disillusionment in the Novel: 1848-1925**

***COMPARATIVE LITERATURE 195a. Crime and Punishment: Variations on a Literary Theme**

***COMPARATIVE LITERATURE 199b. The Roots of Literature**

French

***FRENCH 112aR. The French Middle Ages**

FRENCH 116bR. The French Renaissance

An examination of sixteenth century French literature as it comes to terms with cultural renewal. Background: the Italian influence; Humanism and Protestantism; Platonism. Readings from Rabelais, the Pleiade (Ronsard and Du Bellay), Montaigne and others.

Mr. Joseph

***FRENCH 117a. French Classicism**

FRENCH 118b. The French Enlightenment

The origins of romanticism and realism; modern notions of tolerance, the pursuit of happiness, and feminism; conflicts between primitivism and progress, rationalism and experience, secular humanism and religious morality will be analyzed in such writers as Cyrano de Bergerac, Fontenelle, Bayle, Montesquieu, Voltaire, Diderot, Rousseau and Sade.

Mr. Gendzier

FRENCH 119a. French Romanticism

The Romantic revolution dominated France during the first half of the nineteenth century. We shall study Victor Hugo's central contributions and principal works of fiction, poetry and drama by Balzac, Lamartine, Vigny, Musset. Selections from Baudelaire will exemplify the breakdown of French Romanticism.

Mr. Kaplan

***FRENCH 125aR. French Poetry from the Middle Ages to the Revolution**

Both an introduction to poetry for those with little or no background, and an historical survey. By careful reading of poetic masterpieces and some prose, we follow changes in the idea of poetry and its achievements from the beginnings of French literature through the eighteenth century.

Mr. Joseph

FRENCH 138b. The Great Age of French Fiction*FRENCH 140b. Twentieth Century French Theatre**

A study of twentieth century theater in France, with some reference to trends outside France. Authors studied include Jarry, Giraudoux, Claudel, Sartre, Beckett, Anouilh, Genet.

Mr. Kasell

***FRENCH 149a. Twentieth Century French Fiction**

Main trends in the modern novel in France from Gide to the New Novel, including the work of such writers as Proust, Malraux, Mauriac, Sartre, Camus, Sarraute, Robbe-Grillet, etc.

Mr. Kasell

FRENCH 150b. Modern French Poetry**FRENCH 160a. From Anti-Rationalism to "Engagement" in Modern French Literature****FRENCH 170b. The Moralism Tradition in French Literature**

An examination of the classical "Moralistes" (La Rochefoucauld, Mme. de la Fayette, LaBruyère), and those they influenced in the 18th, 19th, and 20th centuries: Montesquieu, Rousseau, Laclos, Stendhal, Proust, Camus.

Mr. Kasell

FRENCH 180b. Modern French Critical Thought**FRENCH 190a. Major Authors Seminar**

German

GERMAN 102a. German Literature before 1700*GERMAN 110a. Introduction to the Life and Works of Goethe**

Intensive study of many of Goethe's dramatic, lyric and prose works, including *Götz, Werther, Faust I*, and a comprehensive selection of poetry. Lectures and readings in German.

Mr. Zohn

GERMAN 120aR. Enlightenment, Storm and Stress, Idealism: Lessing, Lenz, and Schiller***GERMAN 130b. German Romanticism**

***GERMAN 140aR. German Literature in the Nineteenth Century**

***GERMAN 150aR. The Jewish Contribution to German Literature**

GERMAN 160bR. German Drama and Lyric Poetry from Naturalism to the Second World War

A survey of major trends in these genres with an emphasis on close analysis of selected works by such writers as Hauptmann, Hofmannsthal, Schnitzler, Kaiser, Brecht, Rilke, George and Benn. *Mr. Frey*

***GERMAN 170bR. German Literature Since the "Year Zero" (1945)**

***GERMAN 180a. Twentieth Century Prose: Mann, Kafka, Hesse**

GERMAN 190b. Vienna at the Turn of the Century

The literary and cultural scene in Vienna during the final decades of the Hapsburg empire will be explored through the works of such writers as A. Schnitzler, H. von Hofmannsthal, S. Zweig, P. Altenberg, T. Herzl and K. Kraus. Due attention will be paid to the relationship between men of letters and innovative thinkers, artists and musicians like Freud, Wittgenstein, Klimt, Loos, Schiele, Mahler, and Schoenberg. Lectures, readings and discussions will be in English, but those with advanced preparation in German will be expected to do at least some of the reading in the original. *Mr. Zohn*

Italian

***ITALIAN 110b. Modern Italian Literature**

***ITALIAN 140a. Dante's Divine Comedy**

Russian

***RUSSIAN 112b. Theory of Language (Proto-Slavic)**

Reconstruction of Common Slavic, the prehistoric language from which all the Slavic languages developed. Reading texts in Old Church Slavic, the earliest extant Slavic written documents. *Mr. Hanson*

***RUSSIAN 117a. Pre-Nineteenth Century Russian Literature**

***RUSSIAN 130a. Nineteenth Century Russian Literature**

A comprehensive survey of the major writers and themes of the nineteenth century, including Gogol, Turgenev, Dostoevsky, Tolstoy, Chekhov and others. Conducted in English. Reading available in Russian and English translation. *Ms. Dalton*

***RUSSIAN 145b. Nabokov**

***RUSSIAN 146a. Dostoevsky**

***RUSSIAN 148a. Survey of Russian Theater from 1719 to 1917**

***RUSSIAN 148b. Survey of Twentieth Century Russian Theater**

***RUSSIAN 149bR. Twentieth Century Russian Literature**

***RUSSIAN 161b. The Structure of Modern Russian**

Spanish

SPANISH 120a. Cervantes: In Depth Study of *Don Quixote*

Ms. Lida

SPANISH 125a. The Seventeenth Century

Topic for 1980-81: Studies in the sixteenth and seventeenth century pastoral novel.

Ms. Collard

***SPANISH 130a. Nineteenth Century Spanish Literature**

SPANISH 140aR. Masters of Spanish Poetry

Topic for 1980-81: Three steps toward the contemporary poem.

Mr. Yglesias

***SPANISH 150aR. Spanish Drama of the Siglo de Oro**

***SPANISH 160a. Studies in Latin America Literature I**

SPANISH 160b. Readings in Latin American Literature II

Topic for 1980-81: Twentieth Century Latin American Novelists. Close study and discussion of works selected for their presentation of the "inner world" of man. Special attention will be given to the techniques that reveal various psychological planes as developed by such writers as Barrios, Prieto, Sabato, Onetti, Fuentes, Cortazar, García Márquez, Donoso.

Mr. Rosser

***SPANISH 161aR. Masters of Modern Latin American Poetry**

SPANISH 162bR. Studies in Argentine and Brazilian Literature

Conducted in English. Readings available in Spanish and in English.

Mr. Duffy

***SPANISH 163b. Colonial and Nineteenth Century Latin American Literature**

***SPANISH 170b. The Generation of 1898**

SPANISH 180b. Twentieth Century Spanish Literature

A critical analysis of the theater of 20th century Spain. Particular attention will be paid to the influence of the Spanish Civil War on the thematic preoccupations and the structural evolution and experimentation within this genre. Among the dramatists represented are Lorca, Castre, Arabal and Ruibal.

Ms. Rauchwarger

MATHEMATICS

Objectives

The graduate program in mathematics is designed primarily to lead to the Doctor of Philosophy degree. The formal course work is devoted to giving the student a broad foundation for work in modern pure mathematics. An essential part of the program consists of seminars on a variety of topics of current interest in which mathematicians from Greater Boston often participate. In addition, the Brandeis-Harvard-M.I.T. Mathematics Colloquium gives the student an opportunity to hear the current work of eminent mathematicians from all over the world.

Admission

The general requirements for admission to graduate work in mathematics are the same as those for the Graduate School as a whole. The Department has available a variety of fellowships and scholarships for well-qualified students. To be considered for such financial support the student should submit an application by February 1.

Faculty

Professor David A. Buchsbaum: *Chairman:* Commutative Algebra. Homological Algebra.

Professor Edgar H. Brown, Jr: Algebraic Topology: Manifolds, Cobordism, Surgery, Homotopy, Theory.

Professor Maurice Auslander: Non-commutative Algebra. Homological Algebra.

Professor Harold I. Levine: Differential Topology. Singularities of Differential Maps.

Professor Jerome P. Levine: Differential Topology. Knot Theory and Related Algebra.

Professor Teruhisa Matsusaka: Algebraic Geometry. Classification and Deformations of Algebraic Varieties.

Professor Alan L. Mayer: Classical Algebraic Geometry and Related Topics in Mathematical Physics.

Professor Paul B. Monsky: Number Theory. Arithmetic Algebraic Geometry.

Professor Richard S. Palais: Non-linear Partial Differential Equations. Calculus of Variations in Geometry of Mathematical Physics. Transformation Groups.

Visiting Associate Professor Joseph Becker: Several complex variables. Algebraic Geometry, logic, functional analysis.

Visiting Associate Professor Walter Neumann: Algebraic Topology: knots, singularities.

Associate Professor Gerald W. Schwarz: Smooth and Algebraic Transformation Groups, especially Orbit Structures. C^∞ Functions on \mathbb{R}^n .

Associate Professor Pierre Van Moerbeke: Stochastic Processes. Korteweg-de Vries Equation. Toda Lattices.

Assistant Professor Allan Adler: Algebraic Geometry. Automorphic Forms. Mathematical Logic.

Assistant Professor Mark Adler: Analysis: Differential equations, completely integrable systems.

Assistant Professor Robert Ephraim: Algebraic Geometry, Analysis.

Assistant Professor Michael Harris: Arithmetic of Abelian Varieties Over Number Fields. Class Field Theory. P-adic Representation Theory. L-Functions.

Visiting Assistant Professor Dieter Hoppel: Non-commutative Algebra.

Assistant Professor Kiyoshi Igusa: Differential Topology. Algebraic K-Theory

Assistant Professor Andrew Nicas: Algebraic Topology: manifolds, surgery.

Assistant Professor Ziv Ran: Algebraic Geometry: abelian varieties, algebraic cycles.

Assistant Professor Charles Rockland: Partial Differential Equations. Group Representations.

Visiting Assistant Professor Glenn Stevens: Algebraic Number Theory, L-functions, elliptic curves.

Degree Requirements

Master of Arts

1. One year's residence as a full-time student.
2. Successful completion of an approved schedule of courses.
3. Satisfactory performance in the three first year courses in algebra, analysis and topology — or equivalent examinations (see Program of Study).
4. Proficiency in reading French, German, or Russian.

Doctor of Philosophy

1. Residence as a full-time student for two years.

2. Successful completion of an approved schedule of courses.
3. Superior performance in the three first year courses in algebra, analysis and topology — or equivalent examinations (see Program of Study).
4. Superior performance in the Qualifying Examination.
5. Proficiency in reading two of French, German or Russian.
6. Doctoral dissertation approved by the Department.
7. Final examination consisting of the defense of dissertation.

Program of Study. The normal first year of study consists of Mathematics 101a and b, 111a and b, and 121a and b. In exceptional circumstances and only with the permission of the graduate adviser, a student with superior preparation may omit one or more of these courses and elect higher level courses instead. In this case he or she must take an examination in the equivalent material during the first year. The second year's work will normally consist of three higher level courses in addition to preparation for the qualifying examinations described below. Upon completion of the qualifying examinations, the student will choose a dissertation adviser and begin work on a thesis. This should be accompanied by advanced courses and seminars.

Qualifying Examination. The Qualifying Examination consists of two parts: a major examination and a minor examination. Both are normally taken in the latter part of the second year but may occasionally be postponed until early in the third year. For the major examination the student will choose a limited area of mathematics, e.g. differential topology, or several complex variables, or ring theory — and a major examiner from among the faculty. Together they will plan a program of study and a subsequent examination in that material. The aim of this study is to prepare the student for research toward the Ph.D. The minor examination will be more limited in scope and less advanced in content. The procedures are similar to those for the major examination, but its subject matter should be significantly different.

Admission to Candidacy. To be admitted to candidacy for the Ph.D. degree in Mathematics, the student must have successfully completed the qualifying examination, must demonstrate proficiency in reading French, German or Russian and must be recommended for candidacy by the department.

Dissertation and Defense. The doctoral degree will be awarded only after the submission and acceptance of an approved dissertation and after the successful defense of that dissertation.

Courses of Instruction

MATHEMATICS 101a and b. Algebra I

Groups, rings, modules. Galois theory, affine rings and rings of algebraic numbers. Multi-linear algebra. The Wedderburn Theorem. Other topics as time permits.

Mr. Eisenbud

Mathematics 105aR. Introduction to Foundations of Mathematics

No specific background is required other than interest and some ability in pure mathematics. Basic (naive) set theory. Axiomatization and models.

Mr. Becker

MATHEMATICS 110a. Geometric Analysis

Manifolds, tangent vectors and vector fields. Sard's Theorem and the embedding theorems. Basic properties of Lie groups. Riemannian structures and convex neighborhoods. Differential forms and DeRham's Theorem.

Mr. Schwarz

MATHEMATICS 110b. Geometric Analysis

Introduction to the theory of smooth mapping: transversality and stability.

Mr. Schwarz

MATHEMATICS 111a and b. Analysis I

Measure and integration, Hilbert and Banach spaces. The Cauchy Integral Theorem, the calculus of residues, and the maximum modulus principle. Conformal mappings. Other topics as time permits.

Mr. Palais

MATHEMATICS 121a and b. Topology I

Point set topology, fundamental group, covering spaces. Simplicial complexes, elementary homology and cohomology theory with applications. Manifolds and orientation, cup and cap products, Poincare duality. Other topics as time permits.

Mr. Brown, 1st Term

Mr. Igusa, 2nd Term

MATHEMATICS 143aR. Introduction to Hamiltonian Mechanics

An introduction to basic notions of Hamiltonian mechanics and a survey of some areas of recent interest.

Mr. VanMoerbeke

MATHEMATICS 200. Graduate Seminar

Staff

MATHEMATICS 201a. Algebra II

Mr. Buchsbaum

MATHEMATICS 201b. Algebra II

Mr. Hoppel

MATHEMATICS 202a and b. Algebraic Geometry I

An introduction to the subject of algebraic geometry.

Mr. Matsusaka

MATHEMATICS 203aR. Algebraic Number Theory

Mr. Stevens

MATHEMATICS 204b. Representation Theory of Artin Algebras

Existence and applications of almost split sequences to representations of artin algebras and classical orders. Higher dimensional lattices and orders.

Mr. Auslander

MATHEMATICS 211a and b. Analysis II

Topics in complex analysis.

Mr. M. Adler

MATHEMATICS 221a. Topology II

Elementary homotopy theory, fibrations, obstruction theory, and spectral sequences.

Mr. J. Levine

MATHEMATICS 221b. Topology II

Cohomology operations, characteristic classes, classifying spaces, elementary cobordism.

Mr. J. Levine

***MATHEMATICS 250aR. Riemann Surfaces**

MATHEMATICS 291. Fellowship of the Ring — Seminar in Commutative Algebra

Staff

MATHEMATICS 293. Topology Seminar

Staff

MATHEMATICS 294. Seminar in the Geometry of Singularities

Staff

MATHEMATICS 295. Algebraic Geometry Seminar

Staff

MATHEMATICS 296. Seminar in Artin Rings and Representation Theory

Staff

MATHEMATICS 299a and b.	Readings in Mathematics	<i>Staff</i>
MATHEMATICS 302a.	Algebraic Geometry	<i>Mr. Ran</i>
*MATHEMATICS 302b.	Arithmetic Algebraic Geometry	
*MATHEMATICS 311a.	Topics in Analysis	
*MATHEMATICS 321a.	Algebraic Topology III	
MATHEMATICS 321b.	Algebraic Topology III	<i>Mr. Neumann</i>
MATHEMATICS 324b.	Lie Groups	<i>Mr. Harris</i>
*MATHEMATICS 335a.	Non-Commutative Algebra	<i>Mr. Auslander</i>
MATHEMATICS 335b.	Non-Commutative Algebra	<i>Mr. Auslander</i>
MATHEMATICS 399a and b.	Readings in Mathematics	<i>Staff</i>
MATHEMATICS 401-412.	Research	
Independent research for the Ph.D. degree.		
401. <i>Mr. Auslander</i>	405. <i>Mr. J. Levine</i>	409. <i>Mr. Schwarz</i>
402. <i>Mr. Brown</i>	406. <i>Mr. Matsusaka</i>	410. <i>Mr. Eisenbud</i>
403. <i>Mr. Buchsbaum</i>	407. <i>Mr. Monsky</i>	411. <i>Mr. Mayer</i>
404. <i>Mr. H. Levine</i>	408. <i>Mr. Palais</i>	412. <i>Mr. Van Moerbeke</i>

MUSIC

Objectives

The graduate program in music, leading to the degrees of Master of Fine Arts and Doctor of Philosophy, is designed to provide a command of the craft of composition and an understanding of the nature, structural basis, and historical development of music.

The following general fields of study are offered in music:

1. *Composition.* This program, emphasizing composition and supported by studies in analysis, leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

2. *Music History.* This program, including studies in a variety of techniques, including analysis, applied to different repertoires and historical problems, leads to the degrees of Master of Fine Arts and Doctor of Philosophy.

3. Applicants in music theory are welcomed, although no program specifically confined to theory is offered. The course of study is individually determined, in consultation with the faculty, to comprise courses in theory, analysis, history of theory, and music history, offered under the above two headings.

Students must specialize in one of these areas, but composers are expected to undertake some work in music history and historians to acquire some competence in tonal writing.

Admission

Only a limited number of students will be accepted. The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

Applicants for study in musical composition and theory are required to submit, in addition to a transcript of their undergraduate records, evidence of qualification in the form of examples of original work in musical composition and advanced work in musical theory. Applicants for admission in the history of music should submit examples of their prose writing on music as evidence of their ability to handle the language and specialized vocabulary. Undergraduate theses or term papers will be satisfactory. History applicants wishing to specialize in analysis should also submit examples of advanced work in musical theory. This work should be submitted together with the formal application for admission.

All applicants are expected to have some proficiency at the piano or an orchestral instrument. Information about this should be furnished when making formal application. A departmental written test in basic musicianship and analysis will be sent to all applicants; answers are to be submitted by mail on or before February 15.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the Department on or before the final date specified in the Academic Calendar for filing "Application for Financial Aid." Readmission will be refused in cases where students have not demonstrated a capacity for acceptable graduate work.

Faculty

Professor Margaret H. Bent, *Chairman*

Professor Caldwell Titcomb, *Co-Chairman and Director of Undergraduate Studies*

Professor Martin Boykan

Professor Paul H. Brainard, *Director of Graduate Studies*

Professor Robert L. Koff, *Director of Performing Activities*

Professor Donald Martino

Professor Harold S. Shapero, *Director of Electronic Studios*

Associate Professor Allan R. Keiler

Associate Professor James D. Olesen

Associate Professor Joshua Rifkin

Assistant Professor Kebede Ashenafi

Assistant Professor David M. Hoose

Assistant Professor Edward C. Nowacki

Assistant Professor Conrad M. Pope, *Theory Coordinator*

Instructor Allen L. Anderson

Instructor Ross Bauer

Instructor Peter B. Child

Instructor C. Howard Treibitz

Performing Artist-in-Residence Timothy C. Aarset

Performing Artist-in-Residence Rosalind D. Koff

Degree Requirements

Master of Fine Arts

Language Requirements.

Group A: French, German, Italian.

Group B: Spanish, Latin, Hebrew, Greek (and other languages at the discretion of the music faculty).

Candidates for the master's degree in Musical Composition and Theory must possess a reading knowledge of one language from Group A.

Candidates for the master's degree in History of Music must possess a reading knowledge of two languages in Group A.

Foreign language course credits will not in themselves constitute fulfillment of the language requirements for advanced degrees. All candidates must pass language examinations set or approved by the music faculty and offered periodically during the academic year. Students are urged to take these examinations at the earliest feasible date. In case of failure, an examination may be taken more than once.

Instrumental Proficiency. At least moderate proficiency at the piano is required of all candidates for advanced degrees.

Residence Requirements. Six full courses or the equivalent in half-courses at the graduate level, completed with distinction, and a thesis are required of all candidates.

The department normally allows credit for no more than one full course taken at another institution.

In general, the program of course work is completed in two academic years. It is suggested that students pursue no more than three full courses in any one year.

Examinations. Shortly after their arrival, new graduate students will be expected to take an examination in the standard literature of music. Where deficiency occurs, examinations will be repeated.

Before the end of their second year of study, candidates for the degree of Master of Fine Arts must demonstrate their competence in both theory and history by means of a written general examination in their major field, and either by an examination or by one of the following alternatives in their minor field:

For candidates in composition, the successful completion of Music 182a (or b) or 183a (or b), or of comparable courses taken elsewhere, will be accepted in lieu of a minor general examination in music history. The faculty reserves the right to evaluate the student's accomplishment in history courses not taken at Brandeis.

For candidates in music history, competence in theory can be demonstrated by the successful completion of at least one semester of Music 227, or by a written examination.

The following timetable is suggested for major general examinations: *For candidates in composition,* the composition examination may be taken during the first year and repeated if necessary in the second; the analysis portion of the examination will normally be taken during the second year. Examinations may be repeated in the third year only in the case of a student not proceeding beyond the master's degree. *For candidates in music history,* major general examinations will normally be taken during the second year; they may be repeated in the third year at the discretion of the faculty.

Thesis. Candidates for the degree of Master of Fine Arts in Music are required to submit a thesis. For candidates in musical composition and theory, this will consist of a musical composition, its scope to be approved by the music faculty. For candidates in the history of music it will be an analytical or historical study on a topic acceptable to the music faculty. Candidates in the history of music may submit, in lieu of a separate thesis, revised copies of two seminar papers that have been certified by the seminar instructor and at least one other faculty member as demonstrating a high degree of competence in research and writing. Two copies of the thesis or composition must be submitted to the department chairman in final form no later than December 1 for a February degree or March 1 for a May degree.

Doctor of Philosophy

Admission to the doctoral program is normally granted at the end of the second year of residence, and is determined by the student's performance in course work and general examinations. For candidates in music history, acceptance may be deferred pending repetition of portions of the major examinations.

Residence Requirements. A minimum of eight full courses or the equivalent in half-courses at the graduate level, completed with distinction, are required of all candidates.

In general, the program of course work will be completed in three academic years.

Applicants who have done graduate work elsewhere may apply for transfer of credit for such work; a maximum of one year of residence may be granted.

Instrumental Proficiency. At least moderate proficiency at the piano is required of all candidates.

Language Requirements. Candidates for the doctoral degree in the history of music must possess a reading knowledge of all three languages in Group A. If appropriate to the student's program, the music faculty may accept a language in Group B in lieu of Italian. Candidates in composition and theory must possess a reading knowledge of two languages in Group A.

Examinations. Candidates for the Ph.D. degree have no additional written examination requirements in their major field beyond those for the M.F.A. In the minor field, doctoral-level examinations may, if desired, be replaced by the option of an additional semester of course work completed with distinction. For candidates in composition and theory, a semester of Music 200 or 299 is suggested; for candidates in history, an additional semester of Music 227.

After meeting their language, residence, and general examination requirements, candidates for the Ph.D. must pass a special oral qualifying examination.

Admission to Candidacy. Students will be admitted to candidacy for the Ph.D. degree upon successful completion of the written and oral qualifying examinations, fulfillment of the language requirements, and the approval of a dissertation topic.

Dissertation. Candidates for the degree of Doctor of Philosophy in Composition must submit an original musical composition and a thesis on a theoretical or analytical subject. Candidates for the degree of Doctor of Philosophy in History of Music must submit a dissertation on an historical or analytical subject. Two copies of the doctoral dissertation, as well as an abstract of the dissertation not to exceed six hundred words in length, should be submitted to the department or committee chairman no later than December 1 for a February degree and March 1 for a May degree of the academic year in which the Ph.D. degree is to be conferred.

Written dissertations should demonstrate the competence of the candidate as an independent investigator, his or her critical ability, and effectiveness of expression. Upon completion of the dissertation the candidate will be expected to defend it in an oral examination.

Courses of Instruction

Except in the rarest circumstances, graduate credit is not allowed for courses numbered below Music 165.

MUSIC 168a. Orchestration

The instruments of the orchestra; their construction, ranges and playing techniques, with a consideration of their use by major composers; the methods of writing effectively for present-day instruments, individually and in combination; the mechanics of reading and writing a score. Written exercises, analysis of scores, study of recorded performances, and live demonstrations.

Mr. Titcomb

***MUSIC 171a. History of Music and Drama Criticism**

MUSIC 176a. Musical Cognition

A theory of the abstract structure that a listener attributes to the music he or she hears. Grouping, metrical and pitch organization will be addressed. The construction of a rule system (or grammar) which describes the relationship between musical surfaces and the preferred ways of hearing them.

Mr. Jackendoff

MUSIC 180bR. Ethnomusicology

An introduction to the theory and methodology of ethnomusicology as a study of music in the context of world cultures. Appropriate sound examples will be played in class, with particular attention to the musical styles of Asia (China, India, Indonesia and Japan).

Mr. Ashenafi

MUSIC 182aR. Medieval and Renaissance Periods

Mr. Nowacki

***MUSIC 183a. Baroque and Pre-Classical Periods**

***MUSIC 184a. Classical and Romantic Periods**

***MUSIC 185a. Twentieth Century**

MUSIC 195aR. Electronic Music

Composition, notation and recording of electronic music. Technical electronics as they apply to musical problems.

Mr. Shapero

MUSIC 197a. Tutorial in the Analysis of Tonal Music

Basic analytical problems of tonal music, approached through detailed study of a few representative works.

Mr. Martino

MUSIC 197b. Tutorial in the Analysis of Twentieth Century Music

Basic analytical problems of the music of the twentieth century, approached through detailed study of a few representative works.

Mr. Martino

MUSIC COLLOQUIUM

Discussions of special topics led by the faculty and occasional guests. Some of the sessions will include performances of new works. Required of all graduate students. *Non-credit.*

Staff and Visiting Lecturers

MUSIC 200. Proseminar in Musicology

A survey of the principal subject matters, problems, and techniques comprising the discipline of musicology.

Mr. Brainard

***MUSIC 203. Advanced Musical Analysis**

MUSIC 221a. Seminar in the Music of the Middle Ages

Studies in the history of music from early Christian times through the end of the fourteenth century.

Ms. Bent

***MUSIC 222. Seminar in the Music of the Renaissance**

***MUSIC 223. Seminar in Baroque Music**

***MUSIC 224a. Seminar in Pre-Classical and Classical Music**

MUSIC 225. Seminar in Romantic Music

Selected topics in the period from Beethoven and Schubert to Mahler and Strauss.

Mr. Rifkin

***MUSIC 226a. History and Literature of Western Music Theory: Baroque and Classical Periods**

***MUSIC 226b. History and Literature of Western Music Theory: 1850 to the Present**

MUSIC 227a. Proseminar in Theory and Composition

Technical projects in theory and composition; tonal forms and contrapuntal techniques.

Section 1: Mr. Pope

Section 2: Mr. Shapero

MUSIC 227b. Proseminar in Theory and Composition

Mr. Pope

***MUSIC 228a. Seminar in Twentieth Century Techniques**

MUSIC 233a. Topics in Analysis

Mr. Rifkin

***MUSIC 244b. Berlioz**

***MUSIC 246a. Stravinsky**

***MUSIC 265a. Advanced Orchestration**

MUSIC 270. Seminar in Serial Music

Detailed analysis of scores by Schoenberg, Webern, Boulez, Babbitt; methods of serial organization; relationship between serial procedures and general compositional problems such as phrase articulation and "harmonic movement."

Mr. Boykan

MUSIC 292. Seminar in Composition

Group meetings and individual conferences. Opportunities for the performance of student works will be provided.

Section 1: Mr. Martino

Section 2: Mr. Shapero

MUSIC 299a and b. Individual Research and Advanced Work

Staff

MUSIC 400-409. Dissertation Research

Required of all doctoral candidates

400. *Ms. Bent*

405. *Mr. Titcomb*

401. *Mr. Boykan*

407. *Ms. Keiler*

402. *Mr. Brainard*

408. *Mr. Rifkin*

403. *Mr. Shapero*

409. *Mr. Pope*

404. *Mr. Martino*

Electronic Music Studios

Two studios with facilities for the composition of electronic music are available to qualified student composers.

Director: Mr. Shapero

THE PHILIP W. LOWN SCHOOL OF NEAR EASTERN AND JUDAIC STUDIES

The Lown School is the center for all programs of teaching and research in the areas of Near Eastern and Judaic Studies. The School includes the Department of Near Eastern and Judaic Studies and the Hornstein Program for Jewish Communal Service. The Department offers academic programs in the major areas of its concern. The Hornstein Program is a professional training program leading to the Master of Arts degree in Jewish Communal Service. It makes full use of academic resources of the Department of Near Eastern and Judaic Studies and other departments in the university.

Near Eastern and Judaic Studies

Objectives

The graduate program in Near Eastern and Judaic Studies, leading to the Master of Arts and Doctor of Philosophy degrees, is designed to train scholars and teachers in the various cultures of the Near East and of classical and modern Judaic civilization, and to advance scholarly research in these areas. This work is done mainly through study of the relevant languages and literatures and the interpretation of historical sources.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this department. All candidates are required to have excellent control of Hebrew.

Faculty

Professor Marvin Fox. *Chairman and Director of the Lown School:* Jewish philosophy, Rabbinic thought, Modern Jewish thought.

Associate Professor Avigdor Levy, *Acting Chairman:* Arabic language and culture. Modern Middle East history and studies.

Professor Emeritus Alexander Altmann.

Professor Naftali C. Brandwein: Modern Hebrew literature.

Professor Emeritus Nahum Norbert Glatzer.

Visiting Professor Calvin Goldscheider: Jewish demography.

Professor Emeritus Benjamin Halpern

Professor Alfred L. Ivry: Jewish philosophy. Islamic philosophy.

Professor Nahum M. Sarna: Biblical studies. Dead Sea Scrolls.

Professor Marshall Sklare: Sociology of the Jewish community.

Professor Dwight W. Young: Ancient Near East civilization. Assyriology. Ugaritic. Biblical studies.

Visiting Associate Professor Tzvi Abusch: Assyriology. Religions and cultures of the Ancient Near East.

Associate Professor Michael Fishbane: Biblical studies. Dead Sea Scrolls.

Visiting Associate Professor Paul Mendes-Flohr: Modern Jewish history.

Adjunct Associate Professor Ariella D. Goldberg: Hebrew.

Associate Professor Leon A. Jick: Contemporary Jewish history.

Associate Professor Benjamin C. I. Ravid: Jewish history.

Associate Professor Bernard Reisman: Jewish communal service.

Associate Professor Emeritus Joshua Rothenberg

Visiting Associate Professor Shimon Sharvit: Hebrew linguistics. History of the Hebrew language.

Assistant Professor Aaron Katchen: Second Commonwealth and Hellenistic Judaism.

Assistant Professor Reuven Kimelman: Talmud and Rabbinic literature.

Lecturer Charles Cutter: Judaic bibliography.

Program of Study

Among the main fields in the area of Near Eastern and Judaic Studies in which courses are being given in the Graduate School are:

Semitic Languages and Literatures.

History of Ancient Near East.

Islamic Studies.

Biblical Studies.

Talmud and Rabbinic Literature.

Jewish History of all periods.

Medieval Jewish Philosophy.

Modern Jewish Philosophy.

Jewish Mysticism.

Hebrew Literature.

The Modern Near East.

Contemporary Jewish Studies.

Fields of study not listed here may be approved.

Degree Requirements

Master of Arts

Residence Requirements. The student is required to complete a minimum of eight semester courses in the department. While programs of study are flexible and are adjusted to the interests of the individual student, all degree candidates are required to complete a core program. This program consists of one semester-course in each of the following areas: Bible, Jewish history, Jewish philosophy or Jewish thought, Hebrew literature. Students may also be required to take courses in other departments. It is possible for very well-prepared students to complete the M.A. program in one year, but most students require additional time.

Language Requirements. Every candidate for the Master of Arts degree must show proficiency in Hebrew and in French or German. In special cases, another modern foreign language may be substituted for one of the two listed here. The foreign language requirements are to be satisfied by examination not later than eight weeks before a candidate is to receive the degree.

Examination. A two-hour oral examination is given at the conclusion of the student's residence. This examination may be either the first of the Ph.D. oral comprehensive examinations (for candidates who will go on to the Ph.D.) or a general comprehensive examination for terminal M.A. candidates. The latter examination is designed to test the student's knowledge in various subjects of Judaica and his/her ability to relate this knowledge to the larger areas to which those subjects belong. A student who fails to pass the examination, or any part of it, may apply for re-examination, which will take place not earlier than one semester after the date of the first examination.

Thesis. In certain cases, the student is advised to write a thesis which must be submitted no later than May 1 of the year in which the degree is to be conferred. In such cases, the student registers in the Dissertation Colloquium (NEJS 400) which then counts as one of the required courses.

Doctor of Philosophy

Residence Requirement. Although there is a two-year minimum residence requirement, three years of course work are normally required of all candidates for the Ph.D. The student is expected to carry the equivalent of twelve credit units per semester during this period. Additional course work may be required of individual students at the discretion of the faculty.

Language Requirements. All candidates for the Ph.D. are required to show proficiency in Hebrew and in at least two modern foreign languages. The specific modern languages are to be determined by the student's adviser in light of the requirements for research in the particular area to be pursued. Additional languages may be required as they are judged necessary for research and scholarship in the student's special field. Language requirements should be completed no later than the second year of residence.

Examinations. After completion of course work each student is required to pass three comprehensive examinations in three areas of study. These are usually two-hour oral examinations conducted by at least three members of the graduate faculty. At the discretion of the faculty, written examinations may also be required. A student who fails to pass an examination may apply to take it a second time. This re-examination may take place no earlier than one semester after the date of the first examination.

Admission to Candidacy. A student registered for studies leading to the Ph.D. degree becomes a candidate for that degree upon fulfillment of the residence requirements, when he/she has passed the comprehensive examinations, fulfilled the language requirements, and has had a dissertation proposal approved by the department.

Dissertation and Defense. The student will discuss plans for a dissertation with the chairman of the department and the dissertation supervisor. The conferences on the planning and the program of the dissertation take place in the Dissertation Colloquium (NEJS 400), a course in which the candidate is to register. Normally, the candidate will continue working on the dissertation after the completion of residence, i.e., as a non-resident student. The dissertation must demonstrate the candidate's thorough knowledge of the field and competence in independent research, and must constitute an original contribution to knowledge. Two copies of the dissertation, one of which must be the original typescript, are to be deposited in the office of the department chairman not later than April 1 of the year in which the candidate plans to take the degree. A defense of the dissertation will be held.

Courses of Instruction

NEJS 101. Introductory Literary Arabic

A first course in literary Arabic covering the essentials of grammar, reading, pronunciation, translation and composition. Mr. Levy

NEJS 102. Intermediate Literary Arabic

Study of advanced grammatical and syntactical forms. Reading in classical and modern texts. Drills in pronunciation and composition.

Prerequisite: NEJS 101 or its equivalent.

Mr. Levy

***NEJS 103a. Introduction to Islamic Civilization and Institutions**

***NEJS 103b. Faith and Reason in Islam**

NEJS 104bR. Aramaic Dialectology

Topic for 1980-81 is Syriac. A grammatical study of one of the ancient dialects accompanied by the reading of texts. The dialect treated will vary from year to year, and the course may be repeated for credit.

Mr. Young

***NEJS 106. Elementary Ugaritic**

***NEJS 108b. Comparative Grammar of Semitic Languages**

***NEJS 109a. The Patriarchal Narratives in the Light of Ancient Near East Thought**

***NEJS 110b. Problems in Biblical History**

***NEJS 112a. Biblical Hebrew**

***NEJS 112b. Deutero-Isaiah**

***NEJS 113a. Targum**

NEJS 113b. The Book of Exodus

Selected readings. A detailed study of the Book, its structure, text and exegesis, historical background and problems, its leading themes and ideas.

Mr. Sarna

***NEJS 114a. The Book of Amos**

***NEJS 114b. The Art of the Biblical Narrative**

***NEJS 115a. Book of Deuteronomy**

***NEJS 116b. The Problem of Evil in Jewish Philosophy**

***NEJS 117a. Job and the Problem of Evil**

***NEJS 117b. Dead Sea Scrolls**

***NEJS 118b. Book of Psalms**

***NEJS 119aR. The Book of Ezekiel**

***NEJS 119b. The Minor Prophets: Nahum, Habakkak, Zephaniah**

NEJS 120b. Intermediate Talmud

A more intensive study of selected portions of Treatise Sanhedrin not dealt with in NEJS 53a. Greater emphasis will be placed on the understanding of the classical commentaries. Students will be expected to develop the ability to work through a section of the text on their own.

Prerequisite: Hebrew 6.

Staff

***NEJS 123bR. Classical Biblical Commentaries**

***NEJS 124aR. Modern Jewish-Christian Religious Thought**

***NEJS 125a. Midrashic Literature: Mekhilta d'Rabbi Yishmael**

***NEJS 125b. Midrashic Literature: Sifre Deuteronomy**

***NEJS 127a. Hellenistic Jewish Literature**

***NEJS 127b. The Jewish Liturgy**

***NEJS 128a. History of the Second Jewish Commonwealth: To the End of the Maccabean Period**

***NEJS 128b. History of the Second Jewish Commonwealth: From Herod to Bar Kokhba**

***NEJS 129a. Philo Judaeus of Alexandria**

NEJS 129b. Alexandria: The City and the Idea

A study of the first cosmopolitan society in Western history: its political and social history, its growth as a cultural center and its function as an arbiter of style and taste in the arts and sciences. The meeting of Greek and Jew, with their diverse cultures, had profound consequences for Western culture, and the extent of their interaction will be examined in detail.

Mr. Katchen

NEJS 130a. Images of Moses Ancient and Modern

Moses, the supreme legislator and prophet of ancient Israel, often came to be viewed in later periods as the symbol of everything Jewish. We will examine a classic group of writings, from Philo and the rabbis to Buber and Freud, not only to see how later generations understood Moses' personality, character and legacy, but, more particularly, as a touchstone of changing attitudes to the Jewish heritage and as a key to the history of intergroup dynamics between Jew and non-Jew.

Mr. Katchen

***NEJS 131a. History of Jewish Philosophy: From Antiquity to the Twelfth Century**

***NEJS 132b. Philosophy of the Kalam**

***NEJS 135a. Neoplatonic Elements in Islamic and Jewish Philosophy**

NEJS 135bR. Aristotelian Elements in Islamic and Jewish Philosophy

Medieval Aristotelianism is faithful to Aristotle, but in its fashion. That fashion is decisive in Islamic and medieval Jewish philosophy. It will be explored by first ascertaining Aristotle's views in the areas of physics, metaphysics and ethics; and then by tracing expressions of these ideas in English translation of writings of Alfarabi, Avicenna, Abraham ibn Daud and Maimonides.

Mr. Ivry

***NEJS 138a. Modern Hebrew Literature**

***NEJS 138b. Modern Hebrew Literature**

NEJS 139a. Modern Hebrew Literature: The Jew and His Realia

An analytical study in the development of themes, motifs, milieu, ideas and structures in modern Hebrew prose and poetry with emphasis on the Jew and his realia as reflected in this literature. The course will be based on the short stories of Barash, Berkovitz and others with the poetry of Alterman, Amichai and others.

Mr. Brandwein

***NEJS 139b. Modern Hebrew Literature**

***NEJS 140a. The Jews in Europe to 1700**

***NEJS 140b. The Jews in Europe From 1492-1750**

***NEJS 141a. Introduction to Jewish Historiography**

***NEJS 141b. Jews, Catholics and Protestants in Western Europe, 1517-1867**

***NEJS 142b. Economic History of the Jews to the Emancipation**

***NEJS 144a. Jewish Communities in the Muslim Near East in the 19th and 20th Centuries**

***NEJS 144b. Nationalism in the Modern Near East**

***NEJS 145b. The Near East in the Twentieth Century**

NEJS 147a. History of the Near East and the Ottoman Empire, 1500-1914

A historical survey of the Near East from the establishment of the Ottoman Empire as the area's predominant power to World War I. Topics include Ottoman institutions, their transformation and impact on Near Eastern society; the Ottoman empire as a world power; decline and European imperialism; 19th century reform and westernization.

Mr. Levy

NEJS 147b. The Arab-Israeli Conflict

Consideration of Arab-Jewish relations, attitudes and interactions from 1880 to the present. Traces the evolvement of the struggle for Palestine into a major conflict. Emphasis is on social factors and intellectual currents and their impact on politics. Examines the conflict within its international setting.

Mr. Levy

NEJS 150a. Foundations of Zionist Thought

A study of some of the major texts of Zionist thought dealing with such topics as: the Zionist understanding of the Diaspora; the Zionist vision of the non-Galut Jew; the Zionist critique of the Enlightenment and assimilation; Zionism and Messianism; Zionism and socialism; Zionism and anti-Semitism; political Zionism; religious Zionism, cultural Zionism.

Mr. Flohr

***NEJS 151a. Introduction to Islamic Philosophy**

NEJS 152b. A History of Anti-Semitism

A historical survey of the phenomenon of anti-Semitism from classical antiquity to the present. The historical background will be presented in lectures, while the readings, devoted exclusively to the topic of anti-Semitism will serve as the basis for discussion sessions.

Mr. Ravid

NEJS 153b. Marranos and Conversos: The Jews and Iberian History from 1391

From the mass conversions of Jews to Christianity in 1391 to the establishment of the Spanish Inquisition in 1478, and beyond into the sixteenth and seventeenth centuries, the role and position of Spanish and Portuguese Jewry in its own and in Iberian and world history underwent profound changes. This course examines the social and intellectual history of professing Sephardic Jewry at home and abroad, of believing New Christians and of the secret Jews known as Marranos, many of whom later re-emerged as Jews in such centers as Venice, Amsterdam and Constantinople.

Mr. Katchen

NEJS 154aR. History of the Hebrew Language

The course will offer a general survey of the history of Hebrew and will discuss the main features of the orthography, phonology, morphology, syntax and lexicon of the various periods of Hebrew.

Prerequisite: Hebrew 6 or permission of instructor.

Mr. Sharvit

NEJS 156b. Man and the Gods

Religion of the Ancient Near East as exemplified primarily by the Mesopotamian experience: 1) Main genres of religious literature. 2) Experiences and perceptions of the divine. 3) The creation, nature and purpose of human life and cultures. 4) Being human: death and sexuality; the world of the dead; illness and misfortune; the image of evil; coping with the demonic; perception of and reactions to suffering; the righteous sufferer. Ancient compositions will be read in translation. Biblical material will be introduced when appropriate.

Mr. Abusch

NEJS 157a. Israeli Society

An analysis of recent demographic, social and political trends in Israeli society. Particular attention will be given to processes of social mobility, differences between Sephardim and Ashkenazim, and the interrelationship between social and political institutions.

Mr. Goldscheider

NEJS 158bR. Biblical Prophecy: Book of Jeremiah

A study of the Hebrew text of the book of Jeremiah with emphasis on the role of prophecy and the literary forms and theological issues with which the prophet deals.

Mr. Fishbane

***NEJS 160a. The Emergence of the American Jewish Pattern, 1654-1967**

NEJS 161a. American Jewish Life and Institutions

A survey of the contemporary community and the diverse forms of Jewish identification which characterize American Jewish life. Reform, Conservative, and Orthodox Judaism; problems of Jewish family life including intermarriage; problems of relationship to the general society and to other ethnic groups.

Mr. Sklare

NEJS 162a. Jewish Identity in the Modern World

A systematic exploration of the forces which shape Jewish identity today in Israel and in America. Among the issues to be studied will be: the nature of ethnic identity; criteria for Jewish identity; the effects of the Holocaust on Jewish identity; Israeli-Jewish identity and American-Jewish identity; the question, "Who is a Jew?"; language and identity.

Mr. Herman

***NEJS 163a. The Sociology of the American Jew**

***NEJS 164b. The Sociology of the American Jewish Community**

NEJS 166aR. Modern Jewish Intellectual History

An analysis of modern Jewish ideologies in their social and cultural contexts. Included will be the study of persons and topics such as: Moses Mendelssohn; Wissenschaft des Judentums; religious reform; S.R. Hirsch and neo-orthodoxy; Zionism and secular ideologies.

Mr. Flohr

***NEJS 168a. Jewish Life and Institutions in Eastern Europe, 1880-1918**

***NEJS 168b. History of the Jews in the Soviet Union**

NEJS 169aR. The Destruction of European Jewry

The function of anti-Semitism in the comparative history and politics of Nazism; the Holocaust organization and the victims' responses; allied policies and Western reactions; post-war punishment and reparations. Interdisciplinary approaches to historical sociology and legal philosophy will be applied.

Mr. Jick

***NEJS 170b. Jewish Life and Institutions in Eastern Europe, 1918-1939**

***NEJS 171b. Trends and Values in Yiddish Literature**

***NEJS 173b. Seminar in Yiddish Literature**

NEJS 174b. *Pirkei Avot — The Sayings of the Fathers: In Its Historical Setting

***NEJS 175a. History of Zionism**

NEJS 176a. Judaism and Christianity in the First Centuries

NEJS 182a. Introduction to Jewish Bibliography

The aim of the course is to acquaint students in the various fields of Judaic studies with the general bibliographic tools and the bibliographies in the major sub-fields. This course will concentrate on general Judaica/Hebraica bibliographies and on subject bibliographies in such fields as Jewish history, Jewish philosophy, Hebrew language and literature, anti-Semitism, Holocaust studies, etc.

Mr. Cutter

NEJS 182aR. Introduction to Jewish Bibliography

See NEJS 182a.

Mr. Cutter

NEJS 187b. Biblical Images, Motifs and Ideas in Modern Hebrew Poetry

A study of the major biblical themes, images and ideas in modern Hebrew poetry, concentrating on the works from Bialik to A. Gilboa and H. Guri. Examples of such themes are: the prophet Moses in Bialik, King Saul in Tchernichovsky, Father Isaac in Gilboa and Guri.

Mr. Brandwein

NEJS 207a. Akkadian Religious Texts

A close reading of hymns and prayers addressed to major figures of the Mesopotamian pantheon. Other genres (e.g., myths and epics) may also be studied. Readings will be accompanied by an exposition of the grammar of the literary dialect, textual transmission and criticism and literary style and structure.

Mr. Abusch

NEJS 207b. Akkadian Magical and Medical Texts

An examination in depth of a number of incantations; rituals and prescriptions will also be read. Emphasis will be placed on types of problems encountered in the interpretation of Mesopotamian traditional literature.

Mr. Abusch

NEJS 208aR. Mantic, Magical and Oracular Traditions in Ancient Israel: Traits and Survivals

Mr. Fishbane

NEJS 210aR. Seminar on the Institutional Development of the American Jewish Community

Evolving institutional patterns in the American Jewish experience.

Mr. Jick

***NEJS 210b. Seminar on Strategies of Jewish Continuity in America: Options and Alternatives**

***NEJS 211b. Topics in American Jewish History**

NEJS 215b. Topics in American Jewish Communal Organization

An examination of the structure of the American Jewish community with particular emphasis on gaining an understanding of the intricacies of the variegated network of local and national Jewish organizations. Emphasis is placed on differences and similarities between organizations and upon the assumptions made by different agencies and institutions in pursuing their objectives. The relationship between the formal and the informal Jewish community is explored.

Mr. Sklare

- *NEJS 223b. Readings in the Dead Sea Scrolls**
- NEJS 224bR. The History of the Biblical Canon, Text and Ancient Versions**
 Intended primarily for graduate students majoring in biblical studies.
Prerequisite: Ability to read rabbinic texts. Mr. Sarna
- *NEJS 225a. Seminar in Phoenician and Aramaic Inscriptions**
- NEJS 225b. North-West Semitic Inscriptions** Mr. Sarna
- *NEJS 226aR. Topics in Biblical Religion**
- *NEJS 228b. Seminar on the Greek Versions of the Bible**
- *NEJS 229. Introduction to Classical Ethiopic**
- *NEJS 230a. Seminar in Medieval Jewish Philosophy**
- *NEJS 231. Seminar in Medieval Islamic Philosophy**
- NEJS 232a. Seminar in Modern Jewish Philosophy**
 Topic for 1980-81: The Thought of Franz Rosenzweig. Mr. Flohr
- NEJS 233a. Seminar in Islamic Philosophy**
 Topic for 1980-81: Averroes' Middle Commentary on Aristotle's *De Anima*. Mr. Ivry
- NEJS 233b. Quest and Existence in the Works of J. C. Brenner, N. Gnessin and S. Y. Agnon**
 Analysis of structure themes in the works of Brenner, Gnessin and Agnon. The quest theme, and double vision in the works of Agnon; the tragic vision, and the spiritual-national quest in the works of Brenner; Eros and Theos in the works of Gnessin; the self-portrait and stream of consciousness in the works of Brenner, Agnon and Gnessin.
Mr. Brandwein
- NEJS 234aR. Seminar in Late Medieval Jewish Philosophy**
 Topic for 1980-81: Gersonides' Super Commentary on the *De Anima*. Mr. Ivry
- *NEJS 236a. Theories of Prophecy in Medieval Jewish Philosophy**
- *NEJS 236b. "Articles of Faith" in Medieval Jewish Philosophy**
- *NEJS 237a. Medieval Hebrew Poetry**
- NEJS 238a. Major Trends in Modern Hebrew Literature**
 A critical study of traditional and rebellious strains in the revival period of Hebrew literature. The course will be based on poetical dramas of Ramchal, "Kohelet Musar" of Mendelssohn, "Epic Glory" of Y.L. Gordon. Special attention will be given to the Enlightenment and comparison between classicism, romanticism and realism as unfolded in the various literary creations.
Mr. Brandwein
- *NEJS 239a. Conflict of Ideas in Modern Hebrew Literature**
- *NEJS 239b. Seminar in Hebrew Literature**
- *NEJS 254a. The Structure of Jewish History**
- *NEJS 254b. The Problem of Modern Anti-Semitism**
- *NEJS 256a. Seminar on the Dynamic Structure of Israeli Society**
- *NEJS 256b. Seminar on the Dynamic Structure of Israeli Society**

***NEJS 260a. Seminar on the Philosophical Foundations of Jewish Ethics: Ancient and Medieval**

***NEJS 260b. Seminar on the Philosophical Foundations of Jewish Ethics: Modern**

***NEJS 262a. Problems in the Sociology of the American Jew**

***NEJS 266a. The Rise of Denominations in Modern Judaism**

***NEJS 272b. History of the Jews in Venice**

NEJS 273a. Jewish Survival in Medieval Europe

An inquiry into the reality of Jewish survival in medieval Europe, with special attention paid to the initial settlement of the Jews in a given area, the attitude of the state as indicated in charters and other legislation, the economic activities of the Jews, the reaction of the church and the populace, the interplay between economic toleration and religious hostility, and the factors leading to the final expulsion of the Jews. *Mr. Ravid*

The following courses, offered in the Department of Classical and Oriental Studies, are of special interest to NEJS students studying in the fields of Ancient Near East, Semitics, and Biblical Studies. Please consult CLORS for descriptions.

CLORS 117. The Archaeology of Mesopotamia and Iran *Mr. Todd*

CLORS 167b. Topics in Mesopotamian History: First Millenium B.C.E. *Ms. Morrison*

AKKADIAN 101. Elementary Akkadian *Ms. Morrison*

AKKADIAN 103. Advanced Akkadian III: Second Millenium Texts *Ms. Morrison*

EGYPTIAN 101. Elementary Egyptian *Mr. Zabkar and Staff*

EGYPTIAN 104b. Advanced Egyptian II: Late Egyptian Stories *Mr. Zabkar*

EGYPTIAN 107a. Advanced Egyptian IV: Hymns and Poems *Mr. Zabkar*

NEJS 318-338. Reading Courses

Special tutorials for advanced graduate students.

318a and b. Readings in Arabic Literature *Mr. Levy*

320a and b. Readings in Islamic Philosophy *Mr. Ivry*

***321a and b. Readings in Medieval Jewish Philosophy**

***322a and b. Readings in Modern Jewish Philosophy**

***323a and b. Readings in Jewish Thought**

324a and b. Readings in Hebrew Literature *Mr. Brandwein*

325a and b. Readings in Biblical Texts *Mr. Sarna*

326a and b. Readings in Biblical Literature *Mr. Fishbane*

327a and b. Readings in Ancient Near Eastern Civilizations *Mr. Young*

328a and b. Readings in Ancient Near Eastern Languages *Mr. Young*

330a and b. Readings in the Sociology of the Jewish Community *Mr. Sklare*

331a and b. Readings in Yiddish Literature *Mr. Szulkin*

332a and b. Readings in American Jewish History *Mr. Jick*

333a and b. Readings in the History of the Jews in Europe to 1800 *Mr. Ravid*

337a and b. Readings in Talmudic and Midrashic Literature *Mr. Kimelman*

338a and b. Readings in Second Commonwealth and Hellenistic Judaism *Mr. Katchen*

NEJS 401-411. Dissertation Colloquium

Independent research for the Ph.D. degree.

401. *Mr. Brandwein*

405. *Mr. Sarna*

408. *Mr. Jick*

402. *Mr. Fox*

406. *Mr. Sklare*

409. *Mr. Fishbane*

403. *Mr. Ivry*

407. *Mr. Young*

410. *Mr. Ravid*

411. *Mr. Levy*

THE HORNSTEIN PROGRAM IN JEWISH COMMUNAL SERVICE

Objectives

The two-year program in Jewish Communal Service, leading to the Master of Arts degree, integrates Jewish studies and professional training, preparing students for positions in a variety of settings in the Jewish community, including federations, community centers, Hillel foundations, schools and other communal organizations.

A special one-year master's program is offered for students with graduate degrees in social work or Jewish studies. In addition, part-time study is permitted, but students must complete the program in no more than four years.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Hornstein Program in Jewish Communal Service. In addition, applicants are expected to submit results of either the Graduate Record Examination or the Miller Analogies Test; a statement which describes the applicant's Jewish training and background and future plans; and a sample of written material. Applicants are expected to arrange for a personal interview.

Faculty

Associate Professor Bernard Reisman, *Director*: American Jewish communal studies

Professor Marvin Fox, *Chairman*, Department of Near Eastern and Judaic Studies

Visiting Professor Calvin Goldscheider: Jewish demography.

Professor Arnold Gurin: Social welfare planning and policy

Visiting Professor Simon Herman: Jewish identity.

Professor Robert Perlman: Social welfare planning.

Professor Marshall Sklare: Sociology of the Jewish community.

Visiting Associate Professor Barry Chazan: Jewish education.

Associate Professor Leon A. Jick: American Jewish history.

Assistant Professor Jonathan S. Wocher: Contemporary Judaism: Jewish identity.

Lecturer Mildred Guberman: Field work. Jewish communal service.

See the Department of Near Eastern and Judaic Studies and the Heller School catalog for other faculty and course offerings.

Degree Requirements

Master of Arts

Students in the Jewish Communal Service program may concentrate in one of the following three areas:

1. Group Work and Community Organization.

2. Management.
3. Jewish Education.

Program of Study. Students are expected to complete a minimum of 14 courses, including study in the following areas: professional studies, contemporary Jewish studies and classical Jewish studies. Students may take courses at other Boston area graduate schools (Boston University and Boston College).

During intersession between the first and second terms of each year, students are expected to participate in 1) the *Betty Starr Colloquium on National Jewish Communal Organizations*, a two-day field trip for first-year students to visit national offices and meet with the staffs of major Jewish communal organizations in New York City, in order to examine their activities and roles in the American Jewish communal system; 2) the *Sumner N. Milender Seminar in Jewish Communal Leadership*, led by a prominent leader in Jewish communal service for several days of discussion and workshops on campus on aspects of Jewish communal leadership; and 3) *Management and Social Work Modules*, one week mini-courses dealing with specific practical skills and issues on an intensive basis. These are offered jointly by the Human Services Management Program of the Florence Heller School and other area schools of social work. All students are required to enroll for at least one module each year.

Residence Requirement. The residence requirement for this program is two years of full-time study or the equivalent in part-time study.

Language Requirement. Fluency in Hebrew is required at a level comparable to two years of college training. Students not meeting this requirement upon entrance are required to enroll in courses in Hebrew language — *not for credit*.

Summer Study in Israel. The *Joseph and Esther Foster Seminar in Israel on Contemporary Jewish Life* is sponsored in cooperation with the Center for Jewish Education in the Diaspora of Hebrew University and is required of all students at the completion of their first year of study. The 4½ week program, held during May and June, is a combination of classes and field visits designed to provide an in-depth analysis of Israel. (Supplemental scholarship help is available for the program.)

Fieldwork/Internship. Students have two fieldwork experiences in a Boston area Jewish educational or communal service organization. In the first year, fieldwork is 15 hours a week, in the second year, 20 hours. This schedule requires students to be in residence through the end of May and to plan for a shorter winter intersession than indicated in the University's Academic Calendar.

Substantive Paper. Students are required, during the second year, to submit a major substantive paper growing out of some phase of their fieldwork experience. The paper should analyze a practical issue in Jewish communal service in light of both the student's own experience and the relevant literature.

Courses of Instruction

JCS 127b. The Jewish Liturgy

JCS 153a. Policy Issues in American Jewish Communal Life

An examination of key issues facing the American Jewish community in the areas of leadership development, inter-organizational relationships, community relations, Israel/Diaspora relations, financing communal activities and communal ideology. Readings will include case studies, contemporary analyses and historical materials illuminating issues.

Mr. Woocher

JCS 157a. Israeli Society

See NEJS 157a.

Mr. Goldscheider

JCS 159a. Philosophy of Jewish Education

A philosophic analysis of basic issues related to the theory and practice of contemporary Jewish education: goals and religious education, indoctrination and Jewish education, the concept of teaching.

Mr. Chazan

JCS 159b. Curriculum Development and Jewish Education

An analysis of the relationship between curriculum theory and practice and contemporary Jewish education, with emphasis on 1) key concepts in contemporary curriculum development and their implications for Jewish education, and 2) curriculum programs and trends in contemporary formal and informal Jewish education systems.

Mr. Chazan

***JCS 160a. The Emergence of the American Jewish Pattern, 1654-1967**

JCS 161a. American Jewish Life and Institutions

See NEJS 161a for description.

Mr. Sklare

JCS 162b. Ideological Currents in Contemporary Jewish Life

An exploration of recent trends in Jewish life and thought impacting on the American Jewish community, including alternative institutions (havurot), the resurgence of traditionalism, neo-mystical theology and Jewish feminism. Writings of participants in and critical observers of these currents will be used.

Mr. Woocher

***JCS 163a. The Sociology of the American Jew**

***JCS 164b. The Sociology of the American Jewish Community**

JCS 167a. Jewish Identity of the American Jew

See NEJS 167a.

Mr. Herman

JCS 169aR. The Destruction of European Jewry

See NEJS 169aR.

Mr. Jick

JCS 205a. Theory and Practice of Jewish Communal Service

An introduction to the field of Jewish communal service. This includes a history of Jewish communal services in this country, their relationship to Jewish traditions and to developments in the field of social welfare; the settings in which Jewish services are offered and the factors making for effective organizational performance.

Mr. Reisman

JCS 205b. Theory and Practice of Jewish Communal Service

The focus of the course is on developing a systematic approach to professional performance in Jewish communal organizations. This involves an analysis of contemporary societal developments which affect Jewish individuals and families. This analysis serves as the point of departure for assessing current programs and policies of Jewish communal agencies and for developing new programs to meet changing needs.

Mr. Reisman

JCS 206b. Principles of Informal Education and Small Groups in Jewish Communal Service

This course has two components: 1) principles of informal, experiential education as these are applicable in Jewish communal work, and 2) principles of small group dynamics — leadership, group processes, individual dynamics and self-awareness of the participants as it relates to group leadership roles in Jewish communal life.

Mr. Reisman

***JCS 207b. The History and Ideology of Jewish Community**

***JCS 208a. Contemporary Jewish Identity**

JCS 209a. Issues in Jewish Communal Leadership and Policy

An exploration of several key areas of Jewish communal policy, focusing on issues facing communal leadership and the skills professionals can bring to bear in dealing with these. Areas to be examined include the development of leadership, inter-organizational relationships, community relationships, Israel/Diaspora relations, fund-raising and allocations, and ideology.

Mr. Woocher

JCS 210aR. Institutional Development of the American Jewish Community

See NEJS 210aR.

Mr. Jick

***JCS 210b. Jewish Literary Heritage**

JCS 211b. Topics in American Jewish History

Mr. Jick

JCS 212aR. Methods and Skills in Jewish Communal Research and Evaluation

An introduction to basic skills and methods employed in current research on Jewish communal life. Significant examples of recent research will be examined and students will undertake small-scale research projects. Emphasis will be placed on how research and a knowledge of research tools and methods can enhance professional functioning and communal programs.

Mr. Woocher

JCS 215b. Topics in American Jewish Communal Organization

See NEJS 215b.

Mr. Sklare

JCS 216aR. Organization and Planning in the Jewish Community

This course will deal with the administration of organizations, inter-organizational planning, and the raising and allocation of funds in the American Jewish community. The purpose is to introduce second-year students in the Hornstein Program to practical methods and tools in these areas and ways of conceptualizing the process of administration and planning.

Mr. Gurin

JCS 248c. Field Methods in Jewish Communal Service

Students are placed in selected Jewish communal organizations during the first year for two days a week of field practice. They receive individual supervision from an agency field supervisor, meet every other week with faculty for a group seminar and for periodic individual conferences.

Ms. Guberman

JCS 250. Field Methods in Jewish Communal Service and Jewish Education

Same as JCS 248c, except students are in field work for three days a week.

Ms. Guberman and Mr. Reisman

***JCS 262a. Problems in the Sociology of the American Jew: A Seminar**

Seminar on Contemporary Jewish Issues

During the fall semester the seminar will meet every Wednesday from 11 a.m. to 1 p.m. During the spring semester, the seminar will meet on alternate Wednesdays. *Non-credit.*

Foster Seminar in Israel on Contemporary Jewish Issues

Offered in cooperation with the Center for Jewish Education in the Diaspora at Hebrew University. *Non-credit.*

PHOTOBIOLOGY

See Photobiology (page 54).

PHYSICS

Objectives

The graduate program in Physics is designed to equip students with a broad understanding of major fields of physics and to train them to carry out independent, original research. This objective is to be attained by formal course work and supervised research projects. As the number of students who are accepted is limited, a close contact between students and faculty is maintained, permitting close supervision and guidance of each student.

Advanced degrees will be granted upon evidence of the student's knowledge, understanding and proficiency in classical and modern physics. The satisfactory completion of advanced courses will constitute partial fulfillment of these requirements. Research upon which theses may be based, with residence at Brandeis, can be carried out in the following areas:

Theoretical Physics: Quantum theory of fields; elementary particle physics; general theory of relativity; quantum statistical mechanics; thermodynamics of irreversible processes; quantum theory of the solid state, critical phenomena and phase transitions.

Experimental Physics: High energy experimental physics; atomic and molecular physics; solid state physics; nuclear magnetic resonance; phase transition phenomena; liquid crystal physics; light scattering; positron physics; radio astronomy; biophysical structure analysis.

Admission

As a rule, only candidates for the Ph.D. degree will be accepted. The general requirements for admission to the Graduate School apply to candidates for admission to the graduate area in physics. Admission to advanced courses in physics will be granted following a conference with the student at entrance.

Faculty

Professor Hugh N. Pendleton III, Chairman: Mathematical physics. Supergravity.

Professor Stephan Berko: Positron interactions in solids. Positronium physics.

Professor Donald L. D. Caspar (Rosenstiel Basic Medical Sciences Research Center): Structural molecular biology. X-ray crystallography.

Professor Jacques Cohen: Computer science. Programming language. Non-numerical algorithms.

Professor Stanley A. Deser: Quantum theory of fields. Elementary particles. Supergravity.

Professor Jack S. Goldstein: Astrophysics.

Professor Marcus T. Grisaru: Quantum field theory. Elementary particles. Supergravity.

Professor Eugene P. Gross: Quantum theory of multiparticle systems. Quantum theory of solids. Kinetic theory. Plasma physics.

Professor Peter Heller: Solid state experimental physics. Phase transitions. Spin systems.

Professor Alfred G. Redfield (Rosenstiel Basic Medical Sciences Research Center): Magnetic resonance. Biophysics.

Professor Howard J. Schnitzer: Elementary Particle theory. Quantum theory of fields.

Professor Silvan S. Schweber: Quantum theory of measurement. History of science.

Associate Professor Karl F. Canter: Experimental low energy positron physics in atomic and many-body systems.

Associate Professor Max Chretien: Computer science.

Associate Professor Lawrence E. Kirsch (Director, Feldberg Computer Center): High energy experimental physics.

Associate Professor Robert V. Lange: Biophysics. Visual perception.

Associate Professor Robert B. Meyer: Liquid crystal physics.

Associate Professor Lawrence M. Schwartz: Theoretical solid state physics. Electronic structure of disordered systems.

Associate Professor John F. C. Wardle: Radio astronomy. Cosmology.

Associate Professor Hermann F. Wellenstein: Experimental atomic physics. Electronic impact spectroscopy.

Assistant Professor Laurence F. Abbott: Elementary particle theory. Quantum theory of fields.

Assistant Professor James R. Bensinger: Experimental high energy physics.

Assistant Professor James L. Black: Theoretical solid state physics.

Assistant Professor Ellis S. Cohen: Artificial intelligence.

Assistant Professor Mitchell L. Model: Artificial intelligence.

Assistant Professor Richard A. Poster: Experimental elementary particle physics.

Assistant Professor David H. Roberts: Extragalactic astronomy.

Adjunct Assistant Professor Naomi B. Schmidt: Computer science.

Assistant Professor Frank Sinclair: Experimental solid state physics.

Assistant Professor Charles Y. Young: Experimental condensed matter physics.

Degree Requirements

Master of Arts

Program of Study. The requirements for advanced degrees in the Department of Physics are as follows:

1. One year residence as a full-time student.
2. Six semester courses of advanced work in physics. A thesis on an approved topic may be accepted in place of a semester course.
3. Reading knowledge of Chinese, French, German, Italian, Japanese, Russian or Spanish; or proficiency in computer programming.
4. Satisfactory performance in the Qualifying Examination.

Doctor of Philosophy

1. Two years residence as a full-time student.
2. Nine semester courses of advanced work in physics.
3. Reading knowledge of two of the languages listed under the Master of Arts requirements, including computer programming.
4. Outstanding performance on the Qualifying Examination.
5. Passing of an Advanced Examination in topics related to the student's thesis subject. This examination will normally be taken after preparatory studies in the prospective field of research.
6. Doctoral thesis and final oral examination.

Program of Study and Course Requirements. Normally, first-year graduate students will elect courses from the 100 series; second-year students from the 200 series. To obtain credit toward residence for a graduate course taken at Brandeis, a student must achieve a final grade of "A" or "B" in that course. A student who obtains a grade lower than "B" or an "In-

complete" in two or more courses in any term will not be allowed to continue his or her studies beyond the end of that academic year. (A course from which students withdraws after midterm will be considered as "Incomplete.")

Students may obtain credit for advanced courses taken at another institution provided their level corresponds to the level of graduate courses at Brandeis and that an honor grade in these courses was obtained.

Residence Requirements. A student may obtain up to one year's residence credit toward the Ph.D. requirements for graduate studies taken at another institution. No transfer residence credit will be allowed toward fulfillment of the master's requirements.

Teaching. It is expected that all graduate students will do some undergraduate teaching during the course of their studies.

Language Examinations. The Language Examination consists of a written translation of a scientific text into English. It is arranged informally between the student and the foreign language examiner. The requirements for the computer programming examination are a reasonably complete knowledge of FORTRAN, skill in programming, and familiarity with the most important methods of numerical analysis.

Qualifying Examination. In the first year Quantum Mechanics (Physics 102) and Electromagnetic Theory (Physics 101) must be taken by all students unless they are exempted. All students, whether exempted or not, must take the final examinations in these courses (both fall and spring semesters), which also serve as the qualifying examination although the course itself is not required. An oral examination on general physics, given at the end of the first semester, and another oral examination given at the end of the first year complete the qualification requirements.

Specialized courses also will form part of the qualifying examination. At least two graduate courses, with final examinations in the specialized courses listed below, must be taken during the first three semesters: (1) Statistical Physics, (2) Solid State Physics, (3) Biophysics, (4) Elementary Particles, (5) Astrophysics, (6) Experimental Physics (Physics 109), (7) General Relativity. Note, however, that not all of the above courses will necessarily be given each year.

One semester of Advanced Quantum Mechanics (Physics 202a) will be a required course for all students.

Advanced Examinations. Advanced examinations will be in topics partitioned in the several areas of research interests of faculty. Faculty members working in each general area will function as a committee for this purpose and will provide information about their work through informal discussions and seminars. The advanced examination requirement consists of a written paper and an oral examination. While no original research by the student is expected, it is hoped that a proposal for a possible thesis topic will emerge. It is generally expected that the candidates will take the advanced examination in the field they wish to pursue for their Ph.D. theses, although there may be exceptions.

Thesis Research. After passing the advanced examination, the student begins work with an adviser who guides his or her research program. The adviser should be a member of the Brandeis faculty but in special circumstances may be a physicist associated with another research institution. The graduate committee of the physics faculty will appoint a dissertation committee to supervise the student's research. The student's dissertation adviser will be the chairman of the dissertation committee. The committee will recommend the student for admission to candidacy for the doctorate on recommendation of his or her adviser.

Dissertation and Final Oral Examination. The doctoral dissertation must represent a piece of research of a standard acceptable to the faculty committee appointed for each Ph.D. candidate. The final oral examination, or defense, is an examination in which the student will be asked questions pertaining to the dissertation research.

Courses of Instruction

***PHYSICS 100a. Advanced Classical Mechanics**

***PHYSICS 100b. Continuum Physics**

PHYSICS 101a. Electromagnetic Theory I

Electrostatics, magnetostatics, boundary value problems.

Mr. Gross

PHYSICS 101b. Electromagnetic Theory II

Maxwell's equations. Quasi-stationary phenomena. Radiation.

Mr. Gross

PHYSICS 102a. Quantum Mechanics I

Nonrelativistic quantum theory and its application to simple systems; the harmonic oscillator, the hydrogen atom. Perturbation theory.

Mr. Schweber

PHYSICS 102b. Quantum Mechanics II

Systems of identical particles. Coupling of angular moments. Scattering theory. Time-dependent perturbation theory. Semi-classical analysis of interaction of atomic systems and electromagnetic waves.

Mr. Schweber

PHYSICS 103aR. Statistical Physics

Review of thermodynamics and probability theory. Statistical postulates and ensembles. Behavior of non-ideal gases. Correlation functions, fluctuation theorems, Weiner-Khinchine theorem, generalized Nyquist relations. Mean-field theories of phase transitions; effect of fluctuations, Ginzburg criterion.

Mr. Heller

PHYSICS 104a. Solid State Physics I

The formal description of periodic systems. The vibrational and electronic properties of solids. Electron dynamics on the Fermi surface. The mean field theory of magnetic solids.

Mr. Berko

***PHYSICS 104b. Solid State Physics II**

PHYSICS 107bR. Particle Physics

The phenomenology of elementary particles, strong and weak interactions. Topics include properties of particles, kinematics and quantum mechanics of scattering and decay, phase space, quark model, unitary symmetries and conservation laws.

Mr. Bensinger

***PHYSICS 108b. Introduction to Astrophysics**

PHYSICS 109a and b. Advanced Laboratory

Methods and techniques of experimental research.

Mr. Meyer

PHYSICS 110a. Mathematical Physics

Complex variables; Fourier and Laplace transforms; special functions, partial differential equations; Hilbert space and spectral theory.

Mr. Pendleton

***PHYSICS 137a. Science in the Second Half of the Nineteenth Century**

PHYSICS 152b. Biological Assembly

Physical principles in the construction of biological structures: forces, equilibria, symmetry and control mechanisms. Analysis of the structure and assembly of viruses, membranes and cellular organelles.

Mr. Caspar

***PHYSICS 200a. General Relativity I**

***PHYSICS 200b. General Relativity II**

***PHYSICS 201a. Advanced Many Body Physics**

***PHYSICS 201b. Physics of Many Particle Systems**

PHYSICS 202a. Advanced Quantum Mechanics

Formal theory of scattering. Many particle systems. Elements of second quantization. Relativistic quantum mechanics. Klein-Gordon and Dirac equations.

Mr. Black

***PHYSICS 202b. Relativistic Quantum Field Theory I**

***PHYSICS 203a. Elementary Particle Physics I**

***PHYSICS 203b. Elementary Particle Physics II**

***PHYSICS 204b. Advanced Solid State Physics**

***PHYSICS 207a. Plasma Physics**

***PHYSICS 208a. Cosmology**

PHYSICS 209a and b. Laboratory Seminar I, II

Analysis of some important recent experiments.

Mr. Canter

PHYSICS 210a and b. Theoretical Seminar I, II

Analysis of important recent developments in theoretical physics.

Messrs. Grisaru and Schnitzer

PHYSICS 213a and b. Tutorial in Physics I, II

Staff

***PHYSICS 219a. High Energy Astrophysics**

PHYSICS 220b. Observational Radio Astronomy

This course is an introduction to modern radio telescope systems and how to use them. Topics will include: principles of radio telescopes, antenna design, interferometers and arrays, low noise receivers, polarization, atmospheric effects; single dish observations, radiometers, spectroscopy; aperture synthesis, image processing, the Very Large Array; Very Long Baseline Interferometry, astrometry.

Mr. Wardle

PHYSICS 240b. Seminar in Biophysical Research

See BIOPHYSICS 200b.

Mr. Caspar

***PHYSICS 250c. Chemical Physics Seminar**

PHYSICS 304a and b. Solid State Seminar I, II

Analysis and discussion of recent important developments in solid state physics.

Staff

Research Courses

PHYSICS 405. Experimental Elementary Particle Physics

Mr. Poster

PHYSICS 406. Experimental Elementary Particle Physics

Mr. Bensinger

PHYSICS 407.	Experimental Elementary Particle Physics	Mr. Kirsch
PHYSICS 408.	Theoretical Elementary Particle Physics	Mr. Abbott
PHYSICS 409.	Theoretical Elementary Particle Physics	Mr. Deser
PHYSICS 410.	Theoretical Elementary Particle Physics	Mr. Grisaru
PHYSICS 411.	Theoretical Elementary Particle Physics	Mr. Pendleton
PHYSICS 412.	Theoretical Elementary Particle Physics	Mr. Schnitzer
PHYSICS 413.	Theoretical Elementary Particle Physics	Mr. Schweber
PHYSICS 414.	Experimental Solid State Physics	Mr. Berko
PHYSICS 415.	Experimental Solid State Physics	Mr. Canter
PHYSICS 416.	Experimental Solid State Physics	Mr. Heller
PHYSICS 417.	Theoretical Solid State Physics	Mr. Black
PHYSICS 418.	Theoretical Solid State Physics	Mr. Gross
PHYSICS 419.	Theoretical Solid State Physics	Mr. Lange
PHYSICS 420.	Theoretical Solid State Physics	Mr. Schwartz
PHYSICS 421.	Relativity	Mr. Deser
PHYSICS 422.	Mathematical Physics	Mr. Grisaru
PHYSICS 423.	Mathematical Physics	Mr. Schweber
PHYSICS 424.	Mathematical Physics	Mr. Pendleton
PHYSICS 425.	Statistical Physics	Mr. Gross
PHYSICS 426.	Astrophysics	Mr. Goldstein
PHYSICS 427.	Astrophysics	Mr. Roberts
PHYSICS 428.	Astrophysics	Mr. Wardle
PHYSICS 429.	Structural Biology	Mr. Caspar
PHYSICS 432.	Experimental Atomic and Molecular Physics	Mr. Wellenstein
PHYSICS 433.	Experimental Atomic Physics	Mr. Sinclair
PHYSICS 436.	Biophysics	Mr. Redfield
PHYSICS 437.	Experimental Condensed Matter Physics	Mr. Meyer
PHYSICS 438.	Experimental Condensed Matter Physics	Mr. Young

POLITICS

Objectives

The graduate program in Politics, leading to the degree of Doctor of Philosophy, emphasizes comprehensive professional training by stressing both the fundamentals of the discip-

line grounded in the study of political thought and institutions and the requirements of method and analytical skills.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Normally, the student's undergraduate training must be in a field of social sciences to be considered for admission to this program. Applicants are expected to take the Graduate Record Examination.

Faculty

Professor Donald Hindley, *Chairman*: Comparative. politics: South East Asia; Latin American politics.

Professor Marver H. Bernstein: American politics.

Professor Robert H. Binstock: American politics.

Professor Seyom Brown: *Graduate Director*: International politics; American foreign policy.

Professor Roy C. Macridis: Comparative politics: Western Europe.

Professor Ruth S. Morgenthau: Comparative politics; Africa.

Professor I. Milton Sacks: Comparative politics; Labor politics.

Professor Peter Woll: American politics; Administrative law.

Associate Professor Robert J. Art: International relations; American foreign policy.

Associate Professor Mark L. Hulliung: Political theory.

Associate Professor Martin A. Levin: American politics; Urban politics.

Visiting Associate Professor Dov Ronen: Comparative politics; International relations.

Assistant Professor Jeffrey Abramson: Political theory; Constitutional law.

Assistant Professor Steven Burg: Comparative politics; U.S.S.R.; Eastern Europe.

Assistant Professor Elliot Feldman: Comparative politics; Public policy.

Assistant Professor Thomas Ilgen: International politics; Public policy

Visiting Assistant Professor Xandra Kayden: American politics.

Assistant Professor Christopher Leman: American politics; Public policy.

Assistant Professor Susan M. Okin: Political theory.

Assistant Professor Ralph Thaxton: Comparative politics: Peasants and revolutions.

Degree Requirements

Master of Arts

No one will be accepted in the program who is not a doctoral candidate. However, the M.A. degree may be awarded upon satisfactory completion of one year of residence, the demonstration of proficiency in one foreign language, and the submission of an approved specimen of graduate-level scholarly writing to the Department. In certain cases the Department will counsel the student to complete his or her graduate studies program with a terminal M.A.

Doctor of Philosophy

Students should note certain special features of the program, in particular, (a) instruction in small seminars under close faculty supervision, (b) supervised independent study facilities within the Department, (c) supervised teaching assistantships, (d) opportunities for study in the consortium of universities in the Boston area, and (e) the opportunity to incorporate work in related and relevant fields, e.g. economics, anthropology, philosophy. Each student is assigned to a departmental adviser who will help plan a professional and pertinent program of

study. A continuity of faculty direction is insured throughout the program with allowance for shifts in curricular interest.

Program of Study. The student must complete two years in residence and a minimum of twelve half-courses. Students with an M.A. in political science from other institutions may petition at the end of one year to have their previous graduate courses accepted for Brandeis credit; this may relieve them of as much as a year of residence requirement. (However, they must satisfy all Brandeis requirements: distribution of curriculum, language, etc.) For distribution, each graduate student will be required to take three of the following fields: American Government, Comparative Government, International Relations, Political Theory and/or Methods, or two of the above plus a category of study at the graduate level in another department of the University, as shall be judged valid for the student's program by this Department. (See below for a further clarification of the fields of distribution.)

Within each of the three fields chosen, graduate students will be required to take at least two semester courses. The standard work load for full-time students is at least three courses in each semester of their first two years of study. Fourth courses and audits are encouraged, but the load is deliberately set so that the student may supplement his or her regular course work with independently motivated reading and scholarship. Reading courses will not be offered to first-semester students and will be generally discouraged during the first year. By the end of the first year, students should have identified their major and at least one of their minor fields of interest, and should make this known to their adviser and the Graduate Studies Chairman. (In case of entering M.A.'s a complete program should be worked out by the end of the first semester.) At the end of the first year, an informal examination will be given to test the general progress of the student and suggest a future work plan. The examination will relate primarily to the courses taken by the student.

Normally, at the end of the fourth semester or early in the fifth, a formal oral and written examination for candidacy for the Ph.D. degree will be given covering the student's three fields but with emphasis on the sub-fields in which the student has done most of the work. Each examination is individual; it responds to the approved program of the student. The written examinations may be taken, upon arrangement, within any four-month period except summer holidays; the orals are, of course, simultaneous.

Language Requirements. By the end of the first year of study, the student must demonstrate proficiency in one approved foreign language. (Quantitative methods may be offered in lieu of one of the foreign languages but *not* for purposes of obtaining the M.A. degree.) Proficiency in a second language must be demonstrated prior to admission to Ph.D. candidacy. Language proficiency must be demonstrated at Brandeis and certified by the Department. Foreign language courses may not be counted for academic credit.

Admission to Candidacy. A student may be admitted to candidacy for the Ph.D. degree upon completing the residence requirement, and passing the qualifying examination, fulfilling the language requirement and obtaining departmental approval of the subject and preliminary precis of the dissertation.

Dissertation and Defense. The dissertation will be completed under the supervision of the appropriate member of the departmental faculty. It must be sponsored by a departmental committee of at least two members and have the approval of the graduate committee of the Department. It is assumed that the writing of the dissertation will take at least one year and, barring exceptional circumstances, not more than two and one-half years. The student must successfully defend the dissertation at a final oral examination conducted by his two departmental supervisors and another professor from outside the Department or from another university.

Teaching Assistantships. As determined by funds and undergraduate enrollments, the Department compensates students for teaching assistant work in an amount customarily based on need. First-year students do not normally receive teaching assistantships. It is the policy of the Department that teaching experience is a normal and necessary part of the graduate training program and that ideally all students should have this opportunity regardless of compensation.

Fields and Sub-Fields. As stated above, curricular distribution is based on four major fields. Within the broad range of American Government, special concentrations may be achieved in such areas as urban studies, public administration and policy, institutions of government, parties and pressure groups, constitutional law. The student specializing in Comparative Government should have a command of the important theories and theoretical techniques, and cluster of institutions or processes, such as development, political economy, or parties and bureaucracies, as well as familiarity with a designated geographical area. In International Politics, the student also needs a broad mastery of the principal theories, together with a specialization in such topics as international sub-systems, diplomatic history, security policy, comparative foreign policy, or American foreign policy, etc. In Theory and/or Methods, the student should be closely familiar with a major section of the history of political thought (ancient or modern) and the theories therein presented and developed, or may place primary emphasis on the so-called "scope methods of modern political science." This latter category implies not just the knowledge of quantitative techniques but an ability to criticize their application and a general grasp of the intellectual climate in which the philosophy of social science has developed.

Since the field outside the Department is permitted for curricular distribution, it should be emphasized that no student will be allowed to concentrate exclusively in American studies.

The possibility of particular concentrations and emphases within the four major fields designated above will, of course, vary with the course offerings and the supervisory capacities of the departmental faculty.

Courses of Instruction

Courses and Seminars for Graduate Students

***POLITICS 203a. Seminar: Comparative Politics**

***POLITICS 204b. Seminar: International Politics**

POLITICS 205a. Seminar: American Politics

Examination of the approaches, concepts and theories in the field of American politics.

Mr. Levin

POLITICS 206b. Seminar: Political Theory

An examination of the approaches and concepts in the field of political theory.

Mr. Hulliung

POLITICS 248b. Political Institutions

This seminar-course will introduce the student to structural-functional analysis and processes of institutionalization. Major political structures — parties, executives, bureaucracies and legislatures — will be studied comparatively in democratic and, occasionally, totalitarian regimes.

Mr. Macridis

POLITICS 251b. The Politics of Development

Why is there famine in some countries and plenty in others? With similar environments, why are some areas rich and others poor? What policies favor distorted, as opposed to balanced growth? Searching for ways in which different patterns of growth, distribution and participation emerge, students will do case studies rooted in historical experience.

Ms. Morgenthau

POLITICS 270bR. The Third World in the Global Economy

Prospects for Third World development within the global economy. The legacies of colonialism. Impact of the Bretton Woods system on the new states, and demands for a new international economic order. Contemporary concerns over energy, commodity price stabilization, trade preferences, technology transfer, debt and multinational enterprises.

Mr. Ilgen

POLITICS 274aR. Problems of National Security

Concepts of national security. The role of force in international politics. Alternative military strategies. Arms control and national security. Force planning and budgeting. Crisis management.

Mr. Brown

POLITICS 297a/Section I. The Policy Process in Communist States

The policy process in the Soviet Union, with comparative reference to Eastern Europe. Review of theories of interest representation and decision-making. Detailed examination of the organization and policy-making process in the USSR and selected East European countries. Policy formulation and decision-making in specific fields such as foreign and defense policy, education and regional development.

Mr. Burg

POLITICS 297a/Section II. Mediterranean Politics: Stability and Revolution

This course will deal with Italy, Spain, Portugal and Greece. Particular effort will be made to identify common characteristics that constitute a Mediterranean political profile. The civic culture, the impact of modernization, the background and contemporary forces that account for governmental instability and regime instability will be discussed. Students will be asked to make oral presentations and present papers on selected aspects of Mediterranean politics.

Mr. Macridis

POLITICS 297b/Section I. Political Careers

The sociological, psychological and institutional aspects of who goes into politics, what happens to them, and what impact these factors have on policy and the political process.

Ms. Kayden

POLITICS 297b/Section II. The Limits of the Market and Public Intervention

An analysis of the political, economic and social development of American cities. Special emphasis on the failure of private markets to cope with the needs and social problems of the cities, the movement toward public interventions to meet these needs and problems, and the frequent failures of these public programs.

Mr. Levin

POLITICS 297b/Section III. Seminar on Constitutional Law

An advanced research seminar on selected issues of constitutional law.

Mr. Woll

POLITICS 301-319a and b. Readings in Politics

301a and b. <i>Mr. Binstock</i>	311a and b. <i>Mr. Levin</i>
302a and b. <i>Mr. Brown</i>	312a and b. <i>Mr. Kayden</i>
*305a and b. <i>Mr. Macridis</i>	313a and b. <i>Mr. Abramson</i>
306a and b. <i>Ms. Morgenthau</i>	314a and b. <i>Mr. Burg</i>
307a and b. <i>Mr. Sacks</i>	315a and b. <i>Mr. Feldman</i>
308a and b. <i>Mr. Woll</i>	316a and b. <i>Mr. Ilgen</i>
309a and b. <i>Mr. Art</i>	317a and b. <i>Mr. Leman</i>
310a and b. <i>Mr. Hulliung</i>	318b. <i>Ms. Okin</i>
	319a and b. <i>Mr. Thaxton</i>

POLITICS 401-419. Dissertation Research

Independent research for the Ph.D. degree

401 <i>Mr. Binstock</i>	411. <i>Mr. Levin</i>
402. <i>Mr. Brown</i>	413. <i>Mr. Abramson</i>
403. <i>Mr. Hindley</i>	414. <i>Mr. Burg</i>
405. <i>Mr. Macridis</i>	415. <i>Mr. Feldman</i>
406. <i>Ms. Morgenthau</i>	416. <i>Mr. Ilgen</i>
407. <i>Mr. Sacks</i>	417. <i>Mr. Leman</i>
408. <i>Mr. Woll</i>	418. <i>Ms. Okin</i>
409. <i>Mr. Art</i>	419. <i>Mr. Thaxton</i>
410. <i>Mr. Hulliung</i>	

In addition, the following advanced undergraduate courses may be taken for graduate credit.

POLITICS 101a. Parties, Pressure Groups and Public Opinion	<i>Ms. Kayden</i>
POLITICS 108a. Campaigns and Elections	<i>Ms. Kayden</i>
POLITICS 108b. Environmental and Natural Resources Policy	<i>Mr. Leman</i>
POLITICS 110b. The Politics of Bureaucracy	<i>Ms. Kayden</i>
POLITICS 111a. The American Congress	<i>Mr. Woll</i>
POLITICS 113b. The American Presidency	<i>Mr. Leman</i>
POLITICS 115a. History of American Constitutional Law	<i>Mr. Abramson</i>
POLITICS 116b. Civil Liberties in America	<i>Mr. Abramson</i>
POLITICS 117a. Administrative Law	<i>Mr. Woll</i>
POLITICS 123b. The Politics of Urban Criminal Justice	<i>Mr. Levin</i>
POLITICS 124a. Labor and Politics in the U.S.	<i>Mr. Sacks</i>
POLITICS 125bR. Political Development in the Black Community II	<i>Mr. Taylor</i>
POLITICS 127aR. Government and Politics of Canada	<i>Mr. Feldman</i>
POLITICS 128aR. Contemporary Peasant Revolutions	<i>Mr. Thaxton</i>
POLITICS 129aR. The Politics of Eastern Europe	<i>Mr. Burg</i>
POLITICS 130bR. Soviet Domestic Politics	<i>Mr. Burg</i>
POLITICS 141a. National and International Politics of Southeast Asia	<i>Mr. Nyangoni</i>

POLITICS 141bR.	Africa in World Politics	<i>Mr. Nyangoni</i>
POLITICS 144a.	Political Change in Latin America I	<i>Mr. Hindley</i>
POLITICS 144b.	Political Change in Latin America II	<i>Mr. Hindley</i>
POLITICS 147aR.	Government and Politics of China	<i>Mr. Thaxton</i>
POLITICS 150a.	Government and Politics of Southeast Asia	<i>Mr. Hindley</i>
POLITICS 154a.	Politics of Food Security	<i>Ms. Morgenthau</i>
POLITICS 161b.	The Causes and Prevention of War	<i>Mr. Brown</i>
POLITICS 164aR.	Comparative Foreign Policy	<i>Mr. Macridis</i>
POLITICS 166b.	Issues in International Political Economy	<i>Mr. Ilgen</i>
POLITICS 168b.	American Foreign Policy	<i>Mr. Art</i>
POLITICS 175a.	International Relations in the Middle East	<i>Mr. Ronen</i>
POLITICS 177aR.	Soviet Foreign Policy	<i>Mr. Burg</i>
POLITICS 178bR.	Comparative Asian Foreign Policies	<i>Mr. Sacks</i>
POLITICS 182b.	Political Thought from the Renaissance to the Modern Age	<i>Mr. Abramson</i>
POLITICS 184a.	Utopia and Power in Modern Political Thought	<i>Mr. Hulliung</i>
POLITICS 188a.	Political Thought from the Enlightenment to the Romantic Age	<i>Mr. Hulliung</i>
POLITICS 198bR.	Women in Western Political Thought	<i>Mr. Okin</i>

PSYCHOLOGY

Objectives

The graduate program in Psychology leads to the degree of Doctor of Philosophy. The goal of the program is to develop competent research psychologists and teachers who will become contributors to knowledge in psychology. Toward this end, an emphasis is placed on research activity, starting in the final semester of graduate study. The program of study reflects a belief that the student should develop an area of research specialization and also should be exposed to a range of topics in general psychology. Dissertation supervision is available in the following areas: Sensation, Perception, Memory, Learning, Thinking, Comparative, Child, Personality, Psychopathology, and Social Psychology.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to this area of study.

An undergraduate major in psychology is not required. Students with inadequate preparation may make up their deficiencies during their first year, but without residence credit. Students are admitted on a competitive basis which includes evaluation of previous academic record, recommendations, results of the Graduate Record Examination (Aptitudes and Psychology Achievement Tests), and the Miller Analogies Test.

Faculty

Professor James R. Lackner, *Chairman and Director of Graduate Studies*: Human experimental psychology. Psycholinguistics.

Professor Ricardo B. Morant: Experimental psychology. Perceptual mechanism. Sensation and perception.

Professor Zick Rubin: Social psychology. Interpersonal relationships.

Professor Arthur Wingfield: Human memory. Cognitive processes. Learning theory. Sensory physiology.

Associate Professor Maurice Hershenson: Perception. Developmental theory.

Visiting Associate Professor David J. Ingle: Psychological psychology.

Associate Professor Raymond Knight: Clinical psychology. Experimental psychopathology.

Associate Professor Leslie A. MacArthur: Social psychology. Interpersonal attraction.

Associate Professor Jerome Wodinsky: Comparative psychology. Learning theory. Sensory physiology.

Assistant Professor Teresa M. Amabile: Social psychology. Creativity.

Assistant Professor Lawrence E. Arend, Jr.: Psychophysiology of human vision.

Assistant Professor Michael Berbaum: Group problem-solving and decision-making.

Assistant Professor Susan Goldberg: Developmental psychology.

Assistant Professor Marjorie Lachman: Life-span development. Adult personality.

Assistant Professor Malcolm W. Watson: Development psychology.

Degree Requirements

Doctor of Philosophy

Program of Study. Although there is a two-year minimum residency requirement, four years of full-time graduate study are usually required for the Ph.D. The student is expected to carry the equivalent of twelve credit units per semester during residency.

Research. Each student will devote one-quarter of his or her time to research the first semester of the entering year. For all subsequent semesters, students shall devote a minimum of one-half time to research.

Research Reports. Students will submit reports on their research for the preceding year, in journal form, in time to permit evaluation of the first project by the end of the third semester, and of the second project by the end of the fifth semester. In the event that a student's first-year research report is unsatisfactory, the student will be required to take a terminal master's degree completed not later than the end of the fourth semester of residence. Students who have satisfactorily completed the research requirements will be permitted to continue their work toward the doctorate with no formal requirement of a master's degree.

Course Requirements. Entering students shall take *two seminars* and Psychology 210a in the first semester of residence, one seminar and Psychology 210b in the second semester. After that they shall take two seminars per semester in the second year, and one each semester thereafter until admitted to candidacy for the doctorate. Course selection will not be restricted to the Psychology Department, but will be arranged by the student in consultation with the faculty adviser. Two of the courses that the student takes during his or her graduate training must be outside of the area of specialization.

Qualifying Examinations. In the early part of the fifth semester of residence, each student will be thoroughly examined in the historical, theoretical and empirical literature related to the student's area of specialization, broadly conceived. The chairman of the Department will appoint a three-member committee to administer the qualifying examination from a list pro-

vided by the student's dissertation adviser. In the event that the student fails his or her qualifying examination, he or she will be awarded a terminal master's degree on the basis of an adequate second-year research paper. A student may petition the Department to take the examination a second time if necessary.

Breadth Requirement. All graduate students must demonstrate breadth in the field of psychology before being admitted to candidacy for the Ph.D. This breadth requirement may be fulfilled by demonstrating competence in at least five of the seven areas listed below. The requirements may be satisfied in any of three ways:

- a. By having completed an undergraduate course in that area,
- b. By completing an undergraduate course offered in that area at Brandeis,
- c. By successfully passing the equivalent of an undergraduate final examination for that course.
 1. History and Systems
 2. Physiological
 3. Perception
 4. Learning
 5. Abnormal
 6. Social
 7. Developmental

The other breadth requirement of two *graduate* courses outside of the student's area remains unchanged.

Language Requirement. Reading proficiency in at least one foreign language is required. This language must be one in which substantial psychological literature exists. Language examinations are offered by the Department four times a year, usually in September, December, February and May. Students are expected to satisfy the language requirement as soon as possible. By regulation of the Graduate School, a student who has not passed an examination in at least one foreign language by the end of the first year of study will not be eligible for financial aid from the University for the second year.

Admission to Candidacy. A student may be admitted to candidacy for the doctorate upon fulfilling the above requirements.

Dissertation and Defense. Following the completion of all examinations, the student will prepare a prospectus of the proposed dissertation study in consultation with a faculty dissertation sponsor. The prospectus may be based on preliminary research conducted prior to the student's admission to candidacy for the doctorate. Upon approval by the faculty of the Department, a dissertation committee of three or more members will be appointed by the Department chairman, including the dissertation sponsor as chairman of the committee. The dissertation sponsor will be responsible for advising the student throughout the performance of his or her work, in consultation with the remaining members of the committee at appropriate times in the course of the work. From time to time, the committee will report the student's progress to the Department faculty.

The dissertation should provide evidence of originality, scholarship and research ability. It should be a contribution to knowledge, ordinarily an experimental investigation, but not necessarily so. Upon submission to the chairman of the department of a copy of the thesis, signed by all members of the thesis committee, and a successful defense of the thesis before

all members of the Department, the award of the Ph.D. will be recommended to the Faculty Council of the Graduate School.

Courses of Instruction

PSYCHOLOGY 102b. Physiological Psychology

Those aspects of physiology most relevant to psychological investigation: the anatomy and physiology of receptor and effector organs, the neuron and synapse, sensory and motor neural pathways, the integrative activity of the central nervous system, the autonomic nervous system and the action of hormonal factors.

Mr. Ingle

PSYCHOLOGY 103aR. Cognitive Processes

Primary emphasis will be on cognitive factors in perception and attention. Memory and language will also be considered.

Prerequisite: PSYCH 5a.

Mr. Arend

PSYCHOLOGY 104a. Learning and Behavior

The concept of learning will be examined critically on the basis of infra-human and human studies. Techniques for generating and maintaining learned behavior will receive detailed attention, with emphasis on their relevance to mental retardation, mental illness, delinquency, and education.

Prerequisite: PSYCH 5.

Mr. Wodinsky

PSYCHOLOGY 106b. Friendship

See Anthropology 106b for description.

Messrs. Jacobson and Rubin

PSYCHOLOGY 108a. Sensory Processes

Examination of human sensation, with emphasis on vision and audition. Physiological and psychological evidence will be applied to the problem of sensory coding of visual and auditory information.

Mr. Arend

PSYCHOLOGY 109b. Seminar in Perception

Beginning with a discussion of some historical and philosophical problems in perception, the course will survey current theories and research. Examples will be drawn from the investigations related to the study of the phenomenal constancies, space perception, perceptual learning and development and the effects of set and motivational variables.

Mr. Hershenson

PSYCHOLOGY 113a. Personality

The course covers major personality theories and research. Emphasis will be on application of theory, issues in personality assessment and personality development across the span of life.

Prerequisite: PSYCH 5.

Ms. Lachman

PSYCHOLOGY 114a. Abnormal Psychology

A general introduction to psychopathology. Various theoretical models will be discussed. The techniques and findings of research, both clinical and experimental, will be emphasized.

Prerequisite: PSYCH 5.

Mr. Knight

PSYCHOLOGY 115a. Child Development

An examination of developmental issues from infancy to middle childhood. Study of perceptual, cognitive, affective and social development.

Prerequisite: PSYCH 5.

Mr. Watson

PSYCHOLOGY 115aR. Child Development

An introduction to major theories of child development from infancy to adolescence. Special emphasis will be given to neurophysiological correlates of growth, language development in young children, and moral development in adolescents. *Ms. Goldberg*

PSYCHOLOGY 117bR. Social Psychology

An introduction to research and theory on social behavior. Topics include social perception, socialization, social interaction and relationships, attitude change and social influence, and behavior in groups and organizations. *Mr. Rubin*

PSYCHOLOGY 117b. Social Psychology

See PSYCH 117bR. for description.

Ms. Amabile

PSYCHOLOGY 119aR. Comparative Psychology

The analysis of the behavior of organisms from a comparative and evolutionary perspective, considering genetic, humoral, sensory, and experimental factors in the control behavior. *Mr. Wodinsky*

PSYCHOLOGY 130b. Adult Development and Aging

This course focuses on development from early childhood to old age. Changes in cognition, personality and social behavior will be examined. Emphasis will be on integrating empirical research on adulthood from psychology and other social science disciplines. Topics include intellectual functioning, memory change, critical life events, family and social relationships, death and dying, attitudes toward old age, physical change and moral development.

Enrollment limited to 20.

Ms. Lachman

***PSYCHOLOGY 131b. Social Development**

***PSYCHOLOGY 132b. Cognitive Development**

***PSYCHOLOGY 133aR. Altruism and Prosocial Behavior**

PSYCHOLOGY 134b. Perspectives on Parental Behavior

Reading and discussion of animal and human literature from a variety of disciplines that bear on the development of parental behavior, models of parent-child interaction, disturbances in the parent-child relationship and the impact of parenthood on adult development.

Enrollment limited to 20. Permission of instructor.

Ms. Goldberg

PSYCHOLOGY 135bR. Seminar in Social Cognition

This course deals with research in impression formation and causal attribution. Causal attributions for one's own behavior as well as for other people's behavior will be treated. Determinants of impression formation and causal attribution to be covered include social information, attention, motives and individual differences. Enrollment limited to 20 students.

Ms. McArthur

PSYCHOLOGY 136a. Advanced Topics in Developmental Psychology

We will discuss selected topics in developmental psychology that are important to understanding a coherent theory of development. Students will define development for themselves in terms of the history of research, the origins of psychological abilities, the sequence of change of the abilities, the processes involved in change, and the role of selected environmental factors.

Enrollment limited to 15.

Mr. Watson

PSYCHOLOGY 137b. Social Interaction

Study of interaction among humans chiefly from an experimental perspective. Such processes as social facilitation, imitation, conformity, cooperation and competition, bargaining, coalition formation, group problem solving and group decision making are examined. Models of interaction involving conflict are applied to the analysis of behavior in selected natural contexts.

Mr. Berbaum

***PSYCHOLOGY 138a. Seminar: Conceptions of Social Relationships**

***PSYCHOLOGY 154a. Human Memory**

***PSYCHOLOGY 155a. Visual Space Perception**

PSYCHOLOGY 160b. Seminar on Sex Differences

This course will examine societal sex roles and lay beliefs about sex differences in light of evidence bearing upon: 1) actual sex differences in ability and/or personality; 2) biological vs. social explanations for sex differences; and 3) motivational and cognitive biases in the perception of group differences.

Enrollment limited to 15.

Ms. McArthur

PSYCHOLOGY 161a. Mental Health in the United States: Supervised Field Work

Students pursue a program of reading and spend one day a week working or observing in some clinical installation; there are weekly class meetings.

Enrollment limited to 25.

Mr. Levin

PSYCHOLOGY 161b. Mental Health in the United States: Supervised Field Work

See PSYCH 161a.

Mr. Levin

***PSYCHOLOGY 162a. Psychosomatics**

PSYCHOLOGY 166b. Psychopathology and Cognition

Seminar structure will offer an opportunity to examine, in depth, topics such as child abuse, stress, child advocacy and related issues. Brief history of clinical child psychology will precede students' oral presentations of chosen topic, with efforts to integrate psychopathology and individual distress to family and social consequences.

Enrollment limited to 15.

Mr. Levin

PSYCHOLOGY 167b. Schools of Psychotherapy

Theories and techniques of several schools of psychotherapy and behavior modification are considered. The theories of personality, methods of intervention, goals of therapy and relevant research will be emphasized.

Mr. Knight

PSYCHOLOGY 168a. The Psychology of Creativity

The purpose of this course will be 1) to explore the foundations of modern theory and research on creativity, and 2) to examine methods of stimulating creative thought and expression. The course material will include 1) psychodynamic, behavioristic, humanistic and socialpsychological theories of creativity, 2) personality studies of creative individuals, 3) studies of creative environments, 4) methods of defining and assessing creativity, and 5) programs designed to increase both verbal and non-verbal creativity.

Enrollment limited to 20.

Ms. Amabile

PSYCHOLOGY 169bR. Disorders of Childhood

This course will examine the range of childhood psychopathology through lectures and presentations. Topics will include classification, ethics and the rights of children, behavioral assessment, juvenile delinquency, psychotic behavior, learning disabilities, mental retardation and psychophysiological disorders.

Enrollment limited to 30.

Mr. Levin

PSYCHOLOGY 171a. Biological Bases of Motivation

Topics to be treated include hunger, thirst, migration, sexual behavior. Evidence from biology, neurophysiology, and endocrinology will be evaluated.

Mr. Wodinsky

PSYCHOLOGY 172aR. Temporal Patterning of Behavior

Seminar on problems of serial patterning in the perception and production of speech. Discussion of problems in the integration and execution of complex motor patterns.

Mr. Lackner

PSYCHOLOGY 177a. Biological Basis of Behavior

The course focuses upon the biological basis of reproductive and parental behavior in man and in non-human vertebrates. The evolutionary, endocrine and brain functions related to sexual selections, courtship, mating, fertilization, pregnancy and parenting will be reviewed.

Mr. Ingle

PSYCHOLOGY 180b. Seminar: Writing and the Social Sciences

Examines the range of "popular" writing in the social sciences, including books, magazine articles, newspaper columns, life studies, and book and movie reviews. Students write and exchange feedback on short articles, with a view toward preparing work for publication. Frequent visits by social scientists in various disciplines, writers, and editors. Enrollment limited to 20.

Mr. Rubin with collaboration of Mr. Zola

PSYCHOLOGY 193b. Tests and Measurements

This course covers test theory, types of measurement, the theory and measurement of reliability and validity, and test construction. The measurements of intelligence, achievement and personality are also considered.

Mr. Knight

PSYCHOLOGY 194bR. Language and Mind

See Linguistics 194bR for description.

Messrs. Jackendoff and Lackner

PSYCHOLOGY 195a. Introduction to Psychological Theory

A survey of psychological theories including Associationism, Structuralism, Functionalism, Gestalt, Behaviorism, Psychoanalysis, and their modern derivatives. Emphasis is on the nature of explanation and the methods by which it is achieved.

Mr. Hershenson

***PSYCHOLOGY 197a. Language Acquisition and Development**

***PSYCHOLOGY 199a. Aphasia and Language Breakdown**

***PSYCHOLOGY 200a and b. Observation and Research Strategies in Psychology**

***PSYCHOLOGY 201b. Seminar in Abnormal Psychology**

***PSYCHOLOGY 202b. Seminar in Attribution Theory**

***PSYCHOLOGY 204a. Research Methodology for Development and Social Psychology**

***PSYCHOLOGY 207a. Seminar in Perception**

***PSYCHOLOGY 208b. Seminar in Thinking and Problem Solving**

***PSYCHOLOGY 209b. Writing Seminar**

***PSYCHOLOGY 210a. Advanced Psychological Statistics**

PSYCHOLOGY 210b. Advanced Psychological Statistics

Topics to be covered will include: correlation and regression, introduction to matrix algebra, multiple regression, partial and multiple correlation, principles of experimental design, and analysis of variance.

Prerequisite: Psychology 210a or permission of the instructor.

Mr. Berbaum

***PSYCHOLOGY 211a. Seminar in Infant Development**

***PSYCHOLOGY 212a. Concepts and Methods of Psychophysiology**

***PSYCHOLOGY 213b. The Psychology of Pictorial Representation**

***PSYCHOLOGY 214a. History of Psychological Thought**

***PSYCHOLOGY 215a. Psychological Scaling Methods and Theory**

***PSYCHOLOGY 216a. History of Social Psychology**

***PSYCHOLOGY 217b. Research Seminar in Clinical Psychology**

***PSYCHOLOGY 218a. Seminar in Social Psychology**

***PSYCHOLOGY 219b. Physiological Psychology**

PSYCHOLOGY 220-234. Courses in Research

220a and b. Research in Social Psychology

Ms. Amabile

221a and b. Research in Visual Psychophysics

Mr. Arend

222a and b. Research in Group Problem Solving and Decision Making

Mr. Berbaum

223a and b. Research in Early Development

Ms. Goldberg

224a and b. Research in Visual Information Processing

Mr. Hershenson

225a and b. Research in Neural Mechanisms of Vision

Research will be concerned with neuromechanisms of animal vision, using both the oblation method and that of single-unit recording.

Mr. Ingle

226a and b. Research in Life-span Development; Adult Personality

Ms. Lachman

227a and b. Research in Cognitive Processes in Psychopathology

Mr. Knight

228a and b. Research in Human Spatial Orientation

Mr. Lackner

229a and b. Research in Person Perception

Ms. McArthur

230a and b. Research in Human Spatial Orientation

Mr. Morant

231a and b. Research in Social Psychology

Mr. Rubin

232a. and b. Research in Developmental Psychology

Mr. Watson

233a and b. Research in Speech Perception and Cognitive Processes

Mr. Wingfield

234a and b. Research in Animal Behavior

Mr. Wodinsky

PSYCHOLOGY 235a and b. Research in Developmental Psychology

Ms. Wolf

PSYCHOLOGY 250-264. Advanced Research Project

250a and b. <i>Ms. Amabile</i>	258a and b. <i>Mr. Lackner</i>
251a and b. <i>Mr. Arend</i>	259a and b. <i>Ms. McArthur</i>
252a and b. <i>Mr. Berbaum</i>	260a and b. <i>Mr. Morant</i>
253a and b. <i>Ms. Goldberg</i>	261a and b. <i>Mr. Rubin</i>
254a and b. <i>Mr. Hershenson</i>	262a and b. <i>Mr. Watson</i>
255a and b. <i>Mr. Ingle</i>	263a and b. <i>Mr. Wingfield</i>
256a and b. <i>Ms. Lachman</i>	264a and b. <i>Mr. Wodinsky</i>
257a and b. <i>Mr. Knight</i>	

PSYCHOLOGY 280-294. Advanced Readings

280a and b. <i>Ms. Amabile</i>	288a and b. <i>Mr. Lackner</i>
281a and b. <i>Mr. Arend</i>	289a and b. <i>Ms. McArthur</i>
282a and b. <i>Mr. Berbaum</i>	290a and b. <i>Mr. Morant</i>
283a and b. <i>Ms. Goldberg</i>	291a and b. <i>Mr. Rubin</i>
284a and b. <i>Mr. Hershenson</i>	292a and b. <i>Mr. Watson</i>
285a and b. <i>Mr. Ingle</i>	293a and b. <i>Mr. Wingfield</i>
286a and b. <i>Ms. Lachman</i>	294a and b. <i>Mr. Wodinsky</i>
287a and b. <i>Mr. Knight</i>	

PSYCHOLOGY 300a. Issues in Social and Developmental Psychology

An overview of theory and research in social and developmental psychology, including such topics as social perception and cognition, social interaction and relationships, group dynamics, and cognitive, personality, and social development in infancy, childhood and adulthood.

Enrollment limited to 20.

Staff

PSYCHOLOGY 310b. Topics in Data Analysis for Social Scientists

Mr. Berbaum

PSYCHOLOGY 400-414. Dissertation Research

400. <i>Ms. Amabile</i>	408. <i>Mr. Lackner</i>
401. <i>Mr. Arend</i>	409. <i>Ms. McArthur</i>
402. <i>Mr. Berbaum</i>	410. <i>Mr. Morant</i>
403. <i>Ms. Goldberg</i>	411. <i>Mr. Rubin</i>
404. <i>Mr. Hershenson</i>	412. <i>Mr. Watson</i>
405. <i>Mr. Ingle</i>	413. <i>Mr. Wingfield</i>
406. <i>Ms. Lachman</i>	414. <i>Mr. Wodinsky</i>
407. <i>Mr. Knight</i>	

RUSSIAN

See Joint Program of Literary Studies (page 91).

SOCIOLOGY

Objectives

The graduate program in Sociology is primarily a doctoral program and is designed for students who intend to devote themselves to teaching and research in sociology. The student may, by satisfying certain requirements, receive the M.A. degree. The general objective is to educate students in the major areas of sociology with specialization in several of them.

Admission

The general requirements for admission to the Graduate School, as specified in an earlier section of this catalog, apply to candidates for admission to the Sociology Department.

In addition, all prospective students are encouraged to submit written material (papers, etc.) representative of their best work, which need not be, however, of a sociological nature.

Faculty

Professor Irving K. Zola, Chairman: Sociology of health and illness. Deviance.

Professor Egon Bittner: Sociology of law. Social controls.

Professor Emeritus Everett C. Hughes: Race and ethnic relations. Occupations and work systems.

Visiting Professor Ralph Miliband: Comparative social structures. Political sociology.

Professor Morris S. Schwartz: Social psychology. Social psychiatry.

Professor Maurice R. Stein: Communities. Sociology of culture.

Professor Kurt H. Wolff: Sociology theory. Sociology of knowledge. Phenomenology and sociology.

Associate Professor Gordon A. Fellman: Marx and Freud. Stratification.

Associate Professor Charles S. Fisher: Technology. Everyday Life.

Associate Professor George W. Ross: Political sociology. Social theory.

Assistant Professor Asoka Bandarage: Race, ethnicity and development. Women's studies.

Visiting Assistant Professor Peter Conrad: Sociology of health and illness. Deviance.

Assistant Professor Karen E. Fields: Sociology of religion. Sociology of development.

Assistant Professor Gila J. Hayim: Social and psychological theory. Criminology.

Assistant Professor Paula Rayman: Urban and community social change. Sociology of organization and work structures.

Assistant Professor Kristine M. Rosenthal: Education, socialization and the family. Feminist theory.

Visiting Assistant Professor Carmen Sirianni: Professions and organizations. Political sociology and theory.

Degree Requirements

Doctor of Philosophy

Program of Study. Students entering the Ph.D. program in Sociology are expected to undertake a two-year program of course work, as a part of which they are obliged to take the departmental Pro-Seminar (Sociology 290). The initial program of studies will be arranged in consultation with the graduate student's adviser. Consideration will be given to graduate work done elsewhere but formal transfer credit will be assigned only after the successful completion of the first year of study.

Requirements for the M.A. An M.A. may be granted after the successful completion of eight courses, passing one foreign language examination, and submission of two substantial research papers to be approved by the Department.

Residence Requirements. The minimum residence requirement for the degree of Doctor of Philosophy is two years. It is expected that the Ph.D. will be earned within five years.

Language Requirements. Candidates for the Ph.D. degree must demonstrate either proficiency in two foreign languages or knowledge of one language in depth. The choice of the

languages is subject to approval by the Department. Students may petition to substitute quantitative methods for the second foreign language.

Qualifying Examinations. During a student's residency until the time of his or her formal admission to candidacy, the specific planning, evaluations and accreditation of his or her entire course of study will be in the hands of each student's Guidance-Accreditation Committee composed of three faculty members. Along with the student, this committee will lay out a general course of study designed to meet the interests and needs of the student. Upon completion of this course of study, the student will take an oral qualifying examination covering both general sociology and the areas of the student's special interests. It is assumed that students will fulfill their accreditation before the end of their third year of residence.

Admission to Candidacy. A student shall be eligible for admission to candidacy for the Ph.D. upon fulfillment of the residence requirements, the foreign language requirements, passing the departmental qualifying examination, and submission of an acceptable dissertation proposal. The work on the doctoral dissertation will be supervised by a Dissertation Committee.

Dissertation and the Final Oral Examination. The Ph.D. dissertation may be accepted by the Department upon the recommendation of the Dissertation Committee. To be granted the degree, the student is required to defend the dissertation in a public Final Oral Examination.

Courses of Instruction

SOCIOLOGY 102a. Social Psychiatry

Training in peer counseling is offered through classes, supervised sessions with other students, and community work. Theory, social contexts and practice of reevaluation counseling is stressed. Other social psychiatric approaches are also covered.

Enrollment limited.

Mr. Stein

SOCIOLOGY 102b. Social Psychiatry

Enrollment limited.

Prerequisite: SOC 102a or equivalent.

Mr. Stein

***SOCIOLOGY 103a. The Sociology of Mental Illness and Health**

SOCIOLOGY 104aR. Sociology of Education

Educational institutions as social systems; historical perspectives of American public schooling, the relation of education to other aspects of society, including class, race and economy; the formal organization and culture of the school; role relationships; community contexts, school reform; the debate over equal opportunity.

Enrollment limited to 25.

TBA

SOCIOLOGY 105a. Feminist Critique of Contemporary Social Institutions

Discussion of the rationale of the feminist argument, its history, development and sources of support in organized movements, legislation, media and language. Exploration of long and short-term effects on a variety of social relationships, from occupational roles to child-bearing practice and the structure of the family.

Ms. Rosenthal

***SOCIOLOGY 106b. Sociology of Literature**

***SOCIOLOGY 107aR. Issues in Social Psychology**

SOCIOLOGY 107bR. Issues in Social Psychology

This course will consist of a critical examination of the connections between social personality and social structure as these have been developed in American sociological literature. Special emphasis will rest on how theories of personality and society help to account for social stability and social change.

Enrollment limited to 25 students.

TBA

SOCIOLOGY 108b. Critiques of Contemporary Society

Analysis of major approaches in contemporary sociology and their implications for the modern individual. Emphasis is on methods and functions of social criticism. Theorists like Comte, Weber, Ellul, Marcuse, Rieff, Williams and others will be considered.

Ms. Hayim

***SOCIOLOGY 110bR. Sociology of Knowledge**

***SOCIOLOGY 111a. Political Sociology**

SOCIOLOGY 112b. Social Class, Freedom and Equality

The concept of social class; its role in determining life changes, lifestyles, income, occupation and power; theories of class and inequality; selected social psychological aspects of social class and inequality; American class structure and dynamics; American social class and imperialism.

Mr. Fellman

SOCIOLOGY 116bR. Comparative Ethnic Relations

This course will examine selected issues in the origin and evolution of race and ethnic relations in the U.S. and several Third World countries from a historical and comparative perspective. A critical analysis of concepts (such as prejudice, exploitation), and alternative theories and strategies (such as assimilation, separatism), as well as their relevance to ethnic relations in the selected countries will be presented.

Ms. Bandarage

***SOCIOLOGY 117a. Work and Society**

SOCIOLOGY 118a. American Jewish Life and Institutions

See NEJS 161a.

Mr. Sklare

***SOCIOLOGY 118b. Sociology of the American Jewish Community**

SOCIOLOGY 119b. Social Change: The Nonviolent Movement

This course will provide an introduction to the theories, concepts and practice of nonviolence. We will explore varied applications of nonviolence including civil disobedience, conscientious objection, conflict resolution and national defense. The course will cover comparative and American nonviolent movements. Readings will include works by Ghandi, Thoreau and King.

Ms. Rayman

***SOCIOLOGY 120a. Sociology of Underdevelopment I**

***SOCIOLOGY 120b. Sociology of Underdevelopment II**

SOCIOLOGY 122a. Sociology of Power

This course will discuss various theories of power, notably those associated with pluralist, Marxist and elite theories of society and politics.

Mr. Miliband

***SOCIOLOGY 126a. Sociology of Deviance**

***SOCIOLOGY 126b. Planned Communities**

***SOCIOLOGY 128bR. Sociology of Religion: Sects, Cults and Revivals in American Life**

SOCIOLOGY 130aR. The Family

Exploration of the structure and dynamics of the American family, along with historical and cross-cultural perspectives. Particular attention to the role of women and children in society. Relationships of the family to economic and political institutions. Alternative models for family life including communes.

Enrollment limited to 50 students.

Ms. Rosenthal

SOCIOLOGY 130b. The Family*SOCIOLOGY 132a. Urban Sociology**

Investigation of urban social issues including stratification, rural-urban differences, neighborhood life and a city's political economy. How have cities developed? What are the major issues facing cities today? Students' observations will be combined with relevant readings of Simmel, Weber, Jacobs and Mumford, among others.

Enrollment limited to 10 students.

Ms. Rayman

SOCIOLOGY 132b. Urban Field Studies**SOCIOLOGY 133b. Comparative Urban Cultures****SOCIOLOGY 135a. Group Process**

Interpretation of interpersonal behavior and group development, based in part on observation of the group itself. Readings will include material from psychology and social anthropology as well as sociology.

Enrollment limited to twelve students.

Messrs. Fellman and Schwartz

SOCIOLOGY 136a. Field Work in Institutions*SOCIOLOGY 136b. Field Work in Institutions**

This is a course of supervised field work/research with one lecture a week and the equivalent of 1-1½ days at an institutional setting in which the student is working/volunteering. Preference will be given to students with a specific plan of study in mind and who will have made the appropriate institutional arrangement *prior* to the beginning of the course.

Staff

PSYCHOLOGY 141a. Marx and Freud

The course stresses Marxian and Freudian treatments of human nature, human potential, social stability, conflict, change, consciousness, social class and the relationship between family and social process. Topics of contemporary importance are reviewed in the light of both traditions. Attempts to combine the two approaches are examined.

Mr. Fellman

SOCIOLOGY 141b. Advanced Seminar on Marx and Freud

Continuation of Sociology 141a on an advanced level, for more intensive study of the issues raised there.

Enrollment limited to 10 students.

Mr. Fellman

SOCIOLOGY 143aR. Studies in Social Interaction, The Self and Society

This course will focus on the everyday aspects of social interaction. Topics will include behavior in public places (e.g., bars, stores, cars, sports arenas, eating places), the social organization of space and time, coolness and aggression in everyday life, the presentation of self and the pursuit of attention.

Mr. Sirianni

***SOCIOLOGY 145aR. Sociology of Life Styles: Socialization and Social Class**

***SOCIOLOGY 147a. Social Psychology of Organization and Groups**

***SOCIOLOGY 148a. Social Psychology of Consciousness I**

SOCIOLOGY 148b. Social Psychology of Consciousness II

This course will explore various senses of the self and of society as described in both contemporary and social psychology and traditional Eastern culture. Focus will be on knowing the world in terms of the self's relation to it as exemplified in sociological field work and in meditation. Analysis of parables as a mode of teaching these skills will be explored.

Messrs. Fisher and Stein

***SOCIOLOGY 150a. Sociology of Revolutionary Change**

***SOCIOLOGY 151a. Social Class in Rural and Urban Settings: Environmental Research**

SOCIOLOGY 151b. Environmental Research

This course will consist of a research project cooperatively conceived, designed, executed and analyzed by the students. Class meetings will scrutinize the process of each stage of research, from the initial conception of the problem to methods employed in research design and data interpretation.

Enrollment limited to 12 students.

TBA

SOCIOLOGY 152b. Sociology of Generations: The Adolescent in Society

Study of the implications of the "therapeutic state." Critical analysis of contemporary thought and practice in the field of social control, and the legal and social-psychiatric dilemmas with respect to therapeutic interventions.

Ms. Rosenthal

***SOCIOLOGY 155bR. Social Movement**

***SOCIOLOGY 163b. Therapy and Punishment (Criminology II)**

SOCIOLOGY 164a. Existential Sociology

This course is an introduction to existential thought and its relation to the discipline of sociology. Existential evaluation of selected theories on human nature and interaction, individual freedom and social ethics, the genesis and fate of the modern human group, types of authority, etc. Readings include works by Sartre, Durkheim, Goffman, Nietzsche, Kierkegaard, Mead and Merleau-Ponty.

Ms. Hayim

SOCIOLOGY 165a. Sociology of Birth and Death

This course will explore the ways in which different societies shape the human experience of birth and death. It will focus on recent changes in the societal settings and meanings of birth and death in advanced industrial societies. Topics to be covered include Eastern attitudes towards birth and death, the Holocaust and nuclear war, the social implications of medical technologies and the home birth and hospice movements.

Mr. Stein

SOCIOLOGY 167a. Comparative Social Structures: Advanced Capitalistic Societies

A comparative examination of the development of modern capitalistic political economies stressing the relationship between patterns of economic accumulation, conflict and/or consensus between major social forces and the forms of state activity. Focus will be on the post-World War II evolution of British, French and U.S. societies, more specifically on the construction of different socioeconomic treaties in the immediate post-war period, the functioning of the consumerist social order based on these treaties, and the disruption of this order of the late 1960's and 1970's.

Mr. Ross

SOCIOLOGY 168a. American Society

An examination of contemporary American society with particular reference to the modern development of the American political economy and its effects on patterns of social stratification, power and social control.

Mr. Ross

SOCIOLOGY 170b Industrial Sociology

An examination of modern industrial production and its implications for the social order. Stress will be placed on the nature of the industrial labor process, the internal organization of industrial institutions (the industrial relations system, unionization, management strategies and practices, bureaucratic and white collar work), and the relationships of industry with the state and the international system.

Mr. Ross

SOCIOLOGY 171a. Women and Development

This course will examine the position of Third World women in the U.S. and in Asia, Africa and Latin America from a historical and comparative perspective. The unity and diversity of the female experience will be examined in the context of socio-economic transformations taking place in the Third World. Emphasis will also be placed on the goals and strategies of women's movements in the Third World and their differences from Western feminism.

Ms. Bandarage

SOCIOLOGY 172b. The Family in the United States*SOCIOLOGY 173b. Contemporary Social Problems**

We will deal with a selected group of social problems among which will be a) the deterioration of the cities, b) the onslaught of information and misinformation, c) the troubles of consumerism, d) the burdens of racism and poverty, e) old age and social isolation. The aim of the course is to enable and encourage students to approach existing and proposed institutional arrangements critically.

Mr. Bittner

SOCIOLOGY 174b. Technology and the Environmental Crisis

Consideration of the changing character of contemporary technology in its own terms and as it affects both social structure and the environment. Cases may be drawn from the problems of industrial efficiency and pollution, mining the soil by agriculture, small scale or appropriate technology, waste disposal, the computer revolution, or the search for energy.

Mr. Fisher

SOCIOLOGY 175aR. Theories of Social Change and Social Action*SOCIOLOGY 176b. Issues in Third World Development**

This course will attempt to understand the nature of underdevelopment in the Third World by focusing on such issues as traditional culture, population increase and European colonialism. We will pay particular attention to the economic, political and cultural impact of the West and its implications for development in several Third World countries. Alternative theories and strategies of development will also be considered.

Ms. Bandarage

SOCIOLOGY 177b. Aging in Society

This course explores the social aspects of aging and old age in our society. We examine the definition and treatment of age in various societies with an eye for understanding the contemporary Western response to age. We will explore the experience of aging, the medicalization and institutionalization of old age, and the survival strategies of old age. Fieldwork projects will be encouraged.

Mr. Conrad

SOCIOLOGY 178a. Sociology of the Professions

An introduction to the profession in American society, from law and medicine to the public service, academic and business professions. Topics will include: the structure of careers and professional organizations, the schooling process, personal and family stress, bureaucratic work, relation to clients and government, alternative forms of professional work.

Mr. Sirianni

SOCIOLOGY 180aR. Social Organization and Marxist Politics*SOCIOLOGY 181aR. Methods of Social Research**

This course will provide a broad and critical introduction to social research methods with emphasis on such issues as the objectivity, ethics and uses and abuses of social science. A variety of research techniques such as historical analysis, participant observation, intensive interviews will be covered. In addition, a class research project will be undertaken to gain first-hand experience in the practical aspects of survey research.

Ms. Bandarage

SOCIOLOGY 185a and b. Research Methods and Statistics

See Social Welfare 4.01, 4.02.

Mr. Kurtz

SOCIOLOGY 188bR. Sociology of Law

The legal order considered in a framework of cross-cultural and historical comparison. The role of the instruments of the law and of the administration of justice in contemporary society.

Mr. Bittner

SOCIOLOGY 190b. On the Caring of Caretaker Institutions

An analysis of the structural arrangements of medical practice and of medical settings. Problems of communication and role relationships among professions and between patients and medical personnel will be examined. The impact of structures and role relationships on quality and quantity of medical care and on use of resources will be analyzed.

Mr. Conrad

SOCIOLOGY 191a. Health, Community, and Society

An exploration into interrelationships of the nature of society and societies on the existence and treatment of health and illness. Topics include: conceptions of health and illness, patient careers, and the place of social science in medicine.

Mr. Conrad

SOCIOLOGY 192b. Healing and Healers: Self Care-Self Help Movement*SOCIOLOGY 196b. Seminar: Writing and the Social Sciences**

See PSYCH 180b.

Messrs. Rubin and Zola

SOCIOLOGY 200a. Classical Sociological Theory

Critical readings of the sociologies of Marx, Weber and Durkheim.

TBA

SOCIOLOGY 200b. Contemporary Social Thought

Examination of American and European social thought: system and conflict theory, symbolic interactionism, ethnomethodology and phenomenological sociology and critical theory.

Ms. Hayim

SOCIOLOGY 203a. Field Methods**SOCIOLOGY 203b. Field Methods*****SOCIOLOGY 204a. Sociology and History**

SOCIOLOGY 207a. Issues in Higher Education Seminar: Developing a Feminist Theory

This course will examine the function of theory in social science, its historical development, practical and ideological implications, and critiques with the intent of furthering the development of feminist theory.

Ms. Rosenthal

SOCIOLOGY 208aR. Seminar in the Sociology of Organization: The Industrial Labor Process

A review of the organization of industrial organizations including management, union and relevant political institutions. The seminar will take a historical approach to organization issues with special attention to issues of women and work, unskilled workers and effects of organization models on participation and equality.

Ms. Rayman

SOCIOLOGY 209b. Class and Politics

An examination of theories and descriptions of the relationship between social structure and polity.

Mr. Ross

***SOCIOLOGY 211a. Research on Women and Society**

SOCIOLOGY 214aR. Topics in Social Psychology: Freud and the Freudian Tradition

An examination of the theories of psychoanalytic tradition in social psychology and their implications for social structure and change. Readings from Sigmund Freud, Anna Freud, Geza Roheim, Erik Erikson and others. "Level" of materials will be determined by students and professor, according to background and interests.

Mr. Fellman

SOCIOLOGY 216b. Topics in School Theory

A general seminar on current research and theoretical issues. Individual projects will be encouraged.

Mr. Zola

***SOCIOLOGY 218b. Advanced Topics in Sociology: Surrender and Catch**

***SOCIOLOGY 219a. Social Systems and Political Forms: Social Conflict and Its Management**

SOCIOLOGY 219bR. Social Systems and Political Forms

This course will discuss the different political forms which have been assumed by capitalist societies on the one hand, and Soviet-type societies on the other. The intention is to explore the nature and operation of these different political systems in relation to their economic, social and cultural contexts.

Mr. Miliband

***SOCIOLOGY 220b. Seminar on the Sociology of Politics**

***SOCIOLOGY 221a. Topics in the Sociology of Religion**

***SOCIOLOGY 221b. Topics in the Sociology of Religion**

SOCIOLOGY 226a. Theories in Social Psychology

An examination of some major theorists of self and society, social interaction and interpersonal relations. Theorists considered will include Cooley, Mead, Sullivan, Goffman and Buber.

Mr. Schwartz

***SOCIOLOGY 227b. Group Process Seminar**

SOCIOLOGY 228aR. Themes in Sociological Theory — Phenomenology and Sociology: Alfred Schutz

Mr. Wolff

***SOCIOLOGY 228b. Themes in Sociological Theory**

SOCIOLOGY 230-251. Readings in Sociological Literature

230a and b. Mr. Bittner	245a and b. Mr. Conrad
231a. Mr. Miliband	246a and b. Ms. Hayim
233a and b. Mr. Fellman	247a and b. Ms. Rosenthal
243b. Mr. Fisher	248a and b. Mr. Hughes
238a and b. Mr. Ross	*250a and b. Ms. Fields
239a. Mr. Schwartz	251a and b. Ms. Rayman
240a and b. Mr. Stein	252a and b. Ms. Bandarage
242b. Mr. Wolff	253a and b. Mr. Sirianni
243a and b. Mr. Zola	

***SOCIOLOGY 254a and b. Casting and Forecasting of Medical Roles**

SOCIOLOGY 290c. Pro-Seminar

A seminar meeting once a week in which faculty members introduce their interests and research.

Required of all first year graduate students.

Messrs. Zola and Bittner

SOCIOLOGY 401-421. Dissertation Research

Independent research for the Ph.D. degree.

401. Mr. Bittner	412. Mr. Stein
402. Mr. Miliband	414. Mr. Wolff
404. Mr. Fellman	415. Mr. Zola
405. Mr. Fisher	417. Ms. Fields
407. Mr. Hughes	418. Ms. Hayim
410. Mr. Ross	419. Ms. Rosenthal
411. Mr. Schwartz	421. Ms. Rayman

SPANISH

See Joint Program of Literary Studies (page 91).

THEATER ARTS

Objectives

The Master of Fine Arts Program in Theatre Arts is designed both to train and to educate — to develop skilled craftsmen of knowledge and judgement about the art.

Professionally oriented training is offered in three theatrical disciplines: *Acting* (including an Acting/Directing option), *Design/Technical*, and *Dramatic Writing*.

The production program provides extensive practical experience for all students on and behind the stages of the three Spingold theaters, where the actors act, the directors direct, the designers design and construct, and the playwrights have the opportunity to see their accepted plays produced.

The Department of Theater Arts is a member of the League of Professional Theater Training Programs.

Admission

The general requirements for admission to the Graduate School, given in an earlier section of this catalog, apply to candidates for admission to this area of study. Please note, the GRE

is not required for Theater Arts admission. Students apply for admission to one of the three disciplines and, in addition to the standard application procedures, Acting applicants are seen in an audition/interview, Design/Technical applicants attend an interview with portfolio evaluation, and Dramatic Writing applicants submit one or more original playscripts for evaluation.

Acting and Design/Technical auditions/evaluations are held at Brandeis and, in conjunction with the League of Professional Theatre Training Programs, in Chicago, New York, New Orleans and San Francisco. Information about these auditions/evaluations will be furnished by the department *after* applications have been received, and materials from Dramatic Writing applicants will be reviewed *after* applications have been received.

Admission is granted for one academic year at a time. Students in residence must make formal application for readmission to the Graduate School by March 1 of their first year in residence.

Faculty

Professor Theodore Kazanoff, *Chairman*: Acting and directing.

Professor Howard Bay: Scenic design.

Professor James H. Clay: Directing and theater history.

Professor Martin Halpern: Playwriting and theater history.

Professor Charles W. Moore: Acting and directing.

Adjunct Professor Lisel K. Judge: Fencing.

Visiting Professor John Bush Jones: Dramatic theory, literature and criticism.

Associate Professor Muriel R. Dolan: Voice and speech.

Associate Professor Maureen Heneghan Tripp: Costume design.

Associate Professor Robert O. Moody: Scene painting

Assistant Professor Cheryl G. McFadden: Movement.

Lecturer Mabel Haley: Costume rendering.

Lecturer Cindia Huppeler: Voice and speech.

Artist-in-Residence Daniel Gidron: Acting and directing.

Artist-in-Residence Barbara Harris: Lighting design.

Artist-in-Residence Theodore Janello: Technical direction.

Artist-in-Residence Denise Loewenguth: Costuming.

Degree Requirements

Master of Fine Arts

Residence Requirements. Acting: two years. Acting with Certification: three years. Design/Technical: three years. Dramatic Writing: two years. Dramatic Writing with Certification: three years.

Actors normally earn the M.F.A. degree in two years. A third-year program for actors, and an acting/directing option available to selected third-year actors, is by invitation from the faculty. Playwrights also normally earn the M.F.A. in two years. A third-year program for playwrights is offered to, at most, one playwright annually on invitation from the faculty. Students may elect to accept the invitation for a third year of study, or may decline and have the two-year M.F.A. conferred. Candidates who complete the third year are granted the M.F.A. with Certification.

Programs of Study

ACTING

The acting faculty provides close supervision of class and performance work for first year actors; second and third year actors are the cores of the acting company for mainstage and other production activities. The third year for actors may include an internship at a major theater company for one production during the academic year.

The Acting/Directing Option exists for those actors who wish a program where directing is explored with minimal technical elements. These students receive a combination of acting and directing assignments in the third year.

All actors (with the exception of first year actors in the first half of the first term, who are barred from performance work) are required to audition for and play as cast in all major productions, unless excused by the chairperson after consultation with the director.

Actors are required to serve on a crew for one major production each year (about sixty hours); normally this crew may not be for a play in which the student is also performing. There is no crew requirement for third year students in the Acting/Directing Option, but stage managing is recommended. Students are expected to help on crew whenever they have time, regardless of formal credit.

Required Courses First Year:

THEATER ARTS 201. Seminar in Dramatic Theory, Method, Literature *Mr. Jones*

THEATER ARTS 203. Advanced Acting Studies: I

Includes a collaborative playmaking workshop utilizing improvisational and ensemble techniques; also includes a weekly scene workshop.

Messrs. Kazanoff, Gidron and Moore

THEATER ARTS 207. Movement for the Actor: I

Includes regular fencing classes.

Ms. McFadden

THEATER ARTS 209. Voice/Speech Studies for the Actor: I

Includes regular classes in singing and Alexander Technique.

Ms. Huppeler

THEATER ARTS 225. Production Laboratory: I

Mr. Janello

Required Courses Second Year:

THEATER ARTS 204. Advanced Acting Studies: II

Includes collaborative playmaking workshop utilizing improvisational and ensemble techniques; also includes a weekly scene workshop.

Messrs. Kazanoff, Gidron and Moore

THEATER ARTS 208. Movement for the Actor: II

Includes regular classes in fencing.

Ms. McFadden

THEATER ARTS 210. Voice/Speech Studies for the Actor: II

Includes regular classes in singing and Alexander Technique.

Ms. Huppeler

THEATER ARTS 226. Production Laboratory: II

Mr. Janello

Those students interested in the Acting/Directing Option who receive faculty approval will also take:

THEATER ARTS 213. Directing

Mr. Moore

Required Courses Third Year:

- THEATER ARTS 301. Advanced Acting Studies: III** *Mr. Kazanoff*
Includes a weekly scene workshop.
- THEATER ARTS 302. Movement for the Actor: III** *Ms. McFadden*
Includes regular classes in fencing.
- THEATER ARTS 303. Voice/Speech Studies for the Actor: III** *Ms. Huppeler*
Includes regular classes in singing and Alexander Technique.
- THEATER ARTS 304. Rehearsal and Performance** *Mr. Kazanoff*
- THEATER ARTS 325. Production Laboratory: III** *Mr. Janello*
Those students taking the Acting/Directing Option will take Theater Arts 301 and 304 and either 302 or 303. In addition, they will take:
- THEATER ARTS 202. Seminar in Dramatic Theory, Method, Literature** *Mr. Jones*
Students enrolled in the Acting/Directing Option may, with the permission of the instructor, also take:
- THEATER ARTS 180. Production Concepts** *Mr. Clay*

DESIGN-TECHNICAL

All major productions are designed by graduate students. Therefore, a student may be expected to be involved in a design capacity on at least three productions during each year. In addition, students will participate on various production crews as arranged in consultation with the faculty.

The graduate design thesis (Theater Arts 310) is the final project in the Design/Technical program. In some cases a student's mainstage design assignments in the second or third year may constitute part of the thesis project.

Required Courses First Year:

- THEATER ARTS 201. Seminar in Dramatic Theory, Method, Literature** *Mr. Jones*
- THEATER ARTS 211. Scenic Design: I** *Mr. Bay*
- THEATER ARTS 214. Costume Construction**
Laboratory fee: \$10.00. *Ms. Loewenguth*
- THEATER ARTS 217. Costume Design** *Ms. Heneghan Tripp*
- THEATER ARTS 219. Lighting Design: I**
Laboratory fee: \$10.00. *Ms. Harris*
- THEATER ARTS 221. Sketching and Rendering: I**
Section A: Costume Rendering Ms. Haley
Section B: Set Rendering Mr. Moody
- THEATER ARTS 222. Drafting**
Laboratory fee: \$20.00. *Mr. Janello*
- THEATER ARTS 223. Scenic Painting: I**
Laboratory fee: \$60.00. *Mr. Moody*

THEATER ARTS 225. Production Laboratory: I *Mr. Janello*

THEATER ARTS 230. Life Drawing: I
Laboratory fee determined by enrollment. *Mr. Moody*

Required Courses Second Year:

Students will take either (a) Costume Design II, Costume Construction II and Section A of Sketching and Rendering II, or (b) Scenic Design II, Scenic Painting II and Section B of Sketching and Rendering II. Faculty will determine which group of courses a student will take and, in rare instances, may recommend that a student take both groups. All students will take Lighting Design II, Stage Mechanics, Life Drawing II and Production Laboratory II.

THEATER ARTS 212. Scenic Design: II *Mr. Bay*

THEATER ARTS 218. Advanced Costume Design *Ms. Heneghan Tripp*

THEATER ARTS 220. Lighting Design: II
Laboratory fee: \$10.00. *Ms. Harris*

THEATER ARTS 224. Stage Mechanics
Laboratory fee \$5.00. *Mr. Janello*

THEATER ARTS 226. Production Laboratory: II *Mr. Janello*
Section A: Costume Rendering Ms. Haley
Section B: Set Rendering Mr. Moody

THEATER ARTS 227. Sketching and Rendering: II

THEATER ARTS 228. Scenic Painting: II
Laboratory fee: \$60.00. *Mr. Moody*

THEATER ARTS 231. Life Drawing: II
Laboratory fee determined by enrollment. *Mr. Moody*

THEATER ARTS 232. Costume Construction: II *Ms. Loewenguth*

Required Courses Third Year

Students will take the group of courses (a or b above) they did not take in the second year; all of these courses are listed below. All students will enroll for an Independent Study and for a Thesis Project.

THEATER ARTS 212. Scenic Design: II *Mr. Bay*

THEATER ARTS 218. Costume Design: II *Ms. Heneghan Tripp*

THEATER ARTS 227. Sketching and Rendering: II
Section A: Costume Rendering Ms. Haley
Section B: Set Rendering Mr. Moody

THEATER ARTS 228. Scenic Painting: II *Mr. Moody*

THEATER ARTS 232. Costume Construction *Ms. Haley*

THEATER ARTS 300. Independent Study *Staff*

THEATER ARTS 310. Thesis Projects

Full presentation of projected designs for the scenery, costumes and lighting for a specific play or opera, presented in portfolio form, with the emphasis dependent upon the student's major field of interest. Staff

DRAMATIC WRITING

Dramatic writing students are required to serve on two crews each year (about 120 hours). They are also required to participate in the preparation of any studio, workshop or major production of their plays mounted during the time they are in residence, and this counts as one crew. In rare instances, acting in a major production may count as one crew.

Required Courses First Year

THEATER ARTS 201. Seminar in Dramatic Theory, Method, Literature Mr. Jones

THEATER ARTS 215. Workshop in Dramatic Writing: I
A double-credit course. Mr. Halpern

THEATER ARTS 225. Production Laboratory: I Mr. Janello
One elective course each semester.

Required Courses Second Year

THEATER ARTS 202. Seminar in Dramatic Theory, Method, Literature Mr. Jones

THEATER ARTS 216. Workshop in Dramatic Writing: II
A double-credit course. Mr. Halpern

THEATER ARTS 226. Production Laboratory: II Mr. Janello

THEATER ARTS 310b. Thesis Projects Mr. Halpern
One elective course in the first semester.

Required Courses Third Year

THEATER ARTS 300. Independent Study Staff

THEATER ARTS 315. Workshop in Dramatic Writing: III
A double-credit course. Mr. Halpern

THEATER ARTS 325. Production Laboratory: III Mr. Janello
One elective course each term.



University Organization

Board of Trustees

Under Massachusetts law, the 50-member Board of Trustees is the governing body of the University. There are also four faculty representatives and three student representatives to the Board who participate in Board meetings and have votes on the several committees. The Chairman of the Board of Fellows, the President of the National Women's Committee, and the President of the Alumni Association serve *ex-officio*. Alumni elect annually an Alumni Term Trustee who serves as full voting Trustee for a five-year term.

The President and the Chancellor

The President is the chief executive officer of the University. He is appointed by the Board of Trustees and is responsible for all University activities. Chancellor of the University is an honorary title held by Abram L. Sachar, whose 20 years of experience as first president of Brandeis is now utilized for the welfare of the University. The Chancellorship carries no administrative responsibilities.

Academic Deans

The Dean of Faculty supervises academic policy, undergraduate and graduate curricula, the faculty and its department of instruction.

The Dean of the College of Arts and Sciences assumes responsibility for many areas affecting the academic lives of undergraduates, including curriculum development, advisory services and the academic progress of students.

The Dean of the Graduate School of Arts and Sciences oversees the individualized programs of study for scholars, scientists and artists in 20 disciplines.

The Dean of the Florence Heller Graduate School for Advanced Studies in Social Welfare oversees the academic activities of the University's first and only professional school, and its work in such areas as health, aging, income and employment, and minorities.

The Faculty Senate

The Faculty Senate, the elected representative body of the faculty, discusses such issues as academic freedom and responsibility, University policy, appointments, tenure, dismissal and salaries.

The Board of Fellows

Created in 1951, the Board of Fellows consists of more than 450 national leaders from a broad base of business, educational and public life. Its members lend counsel, expertise and support to University development and planning programs.

The President's Council

President's Councilors are leading men and women throughout the country whose skills and experience are placed at the disposal of the Brandeis President in areas of their special competence.

National Women's Committee

The National Women's Committee, now an organization of more than 60,000 members, has been a partner with the University since 1948. This volunteer organization gives its membership a wide range of educational offerings. These include unique study group programs with syllabi provided by Brandeis faculty; adult education seminars in local communities called "University on Wheels;" and special lectures by University speakers. The more than 120 chapters across the country are embassies of good will for the University. The central commitment of the Women's Committee, however, is to the Brandeis University libraries. Since it was founded by eight members in Boston, it has raised more than 17 million dollars in support of the libraries.

University Libraries

From an initial 2,000 volumes housed in a remodeled stone stable in 1948, the holdings of the Goldfarb Library and the Gerstenzang Library of Science today number more than 775,000 volumes, including microtexts. The libraries boast an impressive collection of microfilm holdings, as well as periodical titles and newspapers.

Alumni Relations

The Office of Alumni Relations, located in the Gryzmish Academic Center, directs and coordinates programs and publications for all Brandeis alumni, the National Alumni Association, regional Alumni Chapters and the Alumni Fund.



The Graduate Council

The members of the Graduate Council of the Graduate School of Arts and Sciences are appointed annually by the President of the University. Members of the Graduate Council for 1980-81 are:

The President of the University *and* The Dean of the Faculty of Arts and Sciences (*ex officio*)

The Dean of the Graduate School, *Council Chairman*

Robert H. Abeles, *Chairman*, Department of Biochemistry

Stuart H. Altman, *Dean*, Florence Heller Graduate School for Advanced Studies in Social Welfare

Margaret H. Bent, *Chairwoman*, Department of Music

David A. Buchsbaum, *Chairman*, Department of Mathematics

David J. DeRosier, *Chairman*, Biophysics Program

Donald Hindley, *Chairman*, Department of Politics

Benjamin B. Hoover, *Chairman*, Department of English and American Literature

Robert C. Hunt, *Chairman*, Department of Anthropology

Alfred L. Ivry, *Acting Chairman*, Department of Near Eastern and Judaic Studies

Theodore L. Kazanoff, *Chairman*, Department of Theater Arts

Attila O. Klein, *Chairman*, Department of Biology

James R. Lackner, *Chairman*, Department of Psychology

Denah L. Lida, *Chairwoman*, Literary Studies Program

Marvin Meyers, *Chairman*, Committee on History of American Civilization

Hugh N. Pendleton III, *Chairman*, Department of Physics

Bernard Reisman, *Chairman*, Jewish Communal Service Program

Jerome A. Schiff, *Director*, Institute for Photobiology of Cells and Organelles

Stephen A. Schuker, *Chairman*, Comparative History Program

Colin Steel, *Chairman*, Department of Chemistry

Louis V. Zabkar, *Co-Chairman*, Department of Classical and Oriental Studies

Irving K. Zola, *Chairman*, Department of Sociology

Rupert E. Gilroy, *Acting Director*, University Libraries

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Chaplain, Harlan Chapel Community

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Frances Rosen

Frances Hahn

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Director, Master's Program

Director, University Health Policy Consortium

Director, Levinson Policy Institute

Director, Center on Aging and

Income Maintenance

Associate Director, Center for

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Financial Analyst
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Director, Rose Art Museum
Curator, Rose Art Museum
Executive Secretary, Patrons and Friends, Rose Art Museum
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To be appointed
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Director of Public Information
Assistant to Vice President for Public Affairs

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Administrative Assistant
Development Researcher
Director of Foundation Relations
Planned Giving Officer
Assistant to Vice President
Development Writer
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Regional Director, New York

Associate Regional Director, New York

Associate Regional Director, New York

Associate Regional Director, New York

Regional Director, Miami

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Ph.D., Cornell University

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Ph.D., Harvard University

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Ph.D., University of Colorado

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Ph.D., Harvard University

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Ph.D., Harvard University

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Ph.D., State University of New York, Stony Brook

Mark Adler, *Assistant Professor of Mathematics*
Ph.D., New York University

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Ph.D., Harvard University

Alexander Altmann, *Professor Emeritus of Jewish Philosophy and History of Ideas*
Ph.D., University of Berlin

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Ph.D., Stanford University

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M.F.A., Brandeis University

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Ph.D., State University of New York, Stony Brook

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Ph.D., Duke University

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Ph.D., Columbia University

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M.A., Oxford University

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M.F.A., Brandeis University

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Ph.D., Harvard University

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

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M.A., Moscow Tchaikovsky Conservatory

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Ph.D., University of Pennsylvania

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Ph.D., Harvard University

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Ph.D., Harvard University

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Ph.D., University of London (University of Paris)

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Ph.D., University of Chicago

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Ph.D., Columbia University

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Ph.D., University of Chicago

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A.B., Central Academy of Music, People's Republic of China

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Saul G. Cohen, *Charles A. Breskin University Professor of Chemistry*
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Ph.D., Harvard University

*On leave, Fall Term, 1980-81
**On leave, Spring Term, 1980-81
***On leave, 1980-81

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Ph.D., Stanford University
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Ph.D., Ohio State University
- Margaret Dalton**, *Associate Professor of Russian*
Ph.D., Harvard University
- Beth Davis**, *Instructor in Education*
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- Marvin G. Davis**, *Assistant Professor of Anthropology*
Ph.D., University of Chicago
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*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

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Ph.D., Columbia University

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**On leave, Spring Term, 1980-81

***On leave, 1980-81

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Ph.D., University of Chicago

Aaron David Gresson, III, Assistant Professor of

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Ph.D., Princeton University

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Ernest Grunwald, Professor of Chemistry

Ph.D., University of California, Los Angeles

Mildred Guberman, Lecturer in Jewish Communal Service

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Mabel Haley, Lecturer in Theater Arts

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Ph.D., Harvard University

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Ph.D., Harvard University

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Ph.D., University of Jena

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Ph.D., Harvard University

Patricia Hanson, *Lecturer with rank of Assistant Professor of Russian*
Ph.D., Harvard University

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Diplom, Universitat Bonn (Universitat Bielefeld)

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Simon Herman, *Visiting Professor of Modern Jewish Studies*
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M.Phil., Yale University

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Thomas Ilgen, *Assistant Professor of Politics*
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Alfred L. Ivry, *Walter Stern Hilborn Professor of Near Eastern and Judaic Studies*
D. Phil., Oxford University

Ray S. Jackendoff, *Professor of Linguistics*
Ph.D., Massachusetts Institute of Technology

David Jacobson, *Associate Professor of Anthropology*
Ph.D., University of Rochester

Pierre-Yves Jacopin, *Lecturer in Anthropology*
Dipl., Sorbonne University

Theodore Janello, *Artist-in-Residence (Theater Arts)*
M.A., University of Connecticut

William P. Jencks, *Gyula and Katica Tauber Professor of Biochemistry and Molecular Pharmacodynamics*
M.D., Harvard University

***Leon A. Jick**, *Helen and Irving Schneider Associate Professor of American Jewish Studies*
Ph.D., Columbia University

William A. Johnson, *Albert V. Danielsen Professor of Philosophy and Christian Thought*
Ph.D., Columbia University

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

Patricia A. Johnston, *Assistant Professor of Classical and Oriental Studies*
Ph.D., University of California, Berkeley

John Bush Jones, *Fannie Hurst Visiting Professor of Dramatic Literature*
Ph.D., Northwestern University (University of Kansas)

Robert C. Jones, *Lecturer in African and Afro-American Studies*
B.A., Brandeis University

Peter C. Jordan, *Associate Professor of Chemistry*
Ph.D., Yale University

George Joseph, *Assistant Professor of French*
Ph.D., Indiana University

Lisel K. Judge, *Professor of Physical Education*
M.Ed., Northeastern University

William Kapelle, *Assistant Professor of History*
Ph.D., University of Massachusetts

David Kaplan, *Professor of Anthropology*
Ph.D., University of Michigan

Edward K. Kaplan, *Assistant Professor of French*
Ph.D., Columbia University

Kathleen M. Karrer, *Assistant Professor of Biology*
Ph.D., Yale University

Walter Kasell, *Assistant Professor of French and Comparative Literature*
Ph.D., Cornell University

Aaron L. Katchen, *Assistant Professor of Near Eastern and Judaic Studies*
Ph.D., Harvard University

Xandra Kayden, *Visiting Assistant Professor of Politics*
Ph.D., Harvard University

Theodore L. Kazanoff, *Professor of Theater Arts*
M.A., Smith College

Philip M. Keehn, *Associate Professor of Chemistry*
Ph.D., Yale University

*****Allan R. Keiler**, *Associate Professor of Music*
Ph.D., Harvard University

*****Morton Keller**, *Samuel J. and Augusta Spector Professor of History*
Ph.D., Harvard University

Albert Kelner, *Abraham S. and Gertrude Burg Professor of Microbiology*
Ph.D., University of Pennsylvania

Alexander Keyssar, *Assistant Professor of History*
Ph.D., Harvard University

****Reuven R. Kimelman**, *Assistant Professor of Near Eastern and Judaic Studies*
Ph.D., Yale University

Denise King, *Instructor in Physical Education*
B.S., Northeastern University

Lawrence E. Kirsch, *Associate Professor of Physics and Director, Feldberg Computer Center*
Ph.D., Rutgers University

Attila O. Klein, *Associate Professor of Biology*
Ph.D., Indiana University

Karen Wilk Klein, *Associate Professor of English*
Ph.D., Columbia University

James Kloppenberg, *Instructor in History*
M.A., Stanford University (On the Andrew Mellon Foundation)

Raymond Knight, *Associate Professor of Psychology*
Ph.D., University of Minnesota

Robert Lincoln Koff, *Professor of Music and Artist-in-Residence*
M. Mus., Oberlin College

Rosalind Koff, *Artist-in-Residence (Music)*

Miroslav Krek, *Lecturer in Bibliography*
M.L.S., University of Chicago

Kenneth Kustin, *Professor of Chemistry*
Ph.D., University of Minnesota

Margie Lachman, *Instructor in Psychology*
M.S., Pennsylvania State University

James R. Lackner, *Meshulam and Judith Riklis Professor of Psychology*
Ph.D., Massachusetts Institute of Technology

Robert V. Lange, *Associate Professor of Physics*
Ph.D., Harvard University

Richard H. Lansing, *Associate Professor of Italian and Comparative Literature*
Ph.D., University of California, Berkeley

Lorraine Ledford, *Lecturer in Spanish*
M.A., Harvard University

Judy Lee, *Lecturer with rank of Assistant Professor of English*
M.A., Northeastern University

Alan Leichuk, *Writer-in-Residence (English)*
Ph.D., Stanford University

Christopher Leman, *Assistant Professor of Politics*
Ph.D., Harvard University

Max Lerner, *Professor Emeritus of American Civilization and Institutions*
Ph.D., Robert Brookings Graduate School

Martin A. Levin, *Associate Professor of Politics*
Ph.D., Harvard University

Solomon Levin, *Lecturer with rank Assistant Professor of Psychology*
Ph.D., Ohio State University

****Harold I. Levine**, *Professor of Mathematics*
Ph.D., University of Chicago

Jerome P. Levine, *Professor of Mathematics*
Ph.D., Princeton University

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

- Lawrence Levine**, *Professor of Mathematics*
Sc.D., The Johns Hopkins University (American
Cancer Society Professorship)
- Norman E. Levine**, *Associate Professor of*
Physical Education
B.S., Bates College
- Alan I. Levitan**, *Associate Professor of English*
Ph.D., Princeton University
- Avigdor Levy**, *Associate Professor of Near*
Eastern and Judaic Studies
Ph.D., Harvard University
- Gwendolyn Lewis**, *Assistant Professor of African*
and Afro-American Studies
Ph.D., New York University
- Susan Lichtman**, *Instructor in Fine Arts*
M.F.A., Yale University
- **Denah L. Lidah**, *Professor of Spanish*
Ph.D., University of Mexico
- Blanche G. Linden**, *Instructor in American*
Studies
M.A., University of Cincinnati
- Eva Linfield**, *Artist-in-Residence (Music)*
B.A., Wellesley College
- Nicholas Linfield**, *Lecturer with rank Assistant*
Professor of English
Ph.D., University of Texas
- Henry Linschitz**, *Helena Rubinstein Professor of*
Chemistry
Ph.D., Duke University
- John E. Lisman**, *Associate Professor of Biology*
Ph.D., Massachusetts Institute of Technology
- **Elaine P. Loeffler**, *Associate Professor of Fine*
Arts
B.A., Smith College
- Denise Loewenguth**, *Artist-in-Residence (Theater*
Arts)
- John M. Lowenstein**, *Helena Rubinstein*
Professor of Biochemistry
Ph.D., London University
- Susan Lowey**, *Professor of Biochemistry and*
Rosenstiel Basic Medical Sciences Research
Center
Ph.D., Yale University
- James Luckett**, *Assistant Professor of Economics*
M.A., Cornell University
- Roy C. Macridis**, *Lawrence A. Wien Professor of*
International Cooperation
Ph.D., Harvard University
- Robert J. Maeda**, *Associate Professor of Fine*
Arts
Ph.D., Harvard University
- Joan M. Maling**, *Associate Professor of*
Linguistics
Ph.D., Massachusetts Institute of Technology
- Robert A. Manners**, *Professor Emeritus of Social*
Anthropology
Ph.D., Columbia University
- Frank E. Manuel**, *Alfred and Viola Hart*
University Professor
Ph.D., Harvard University
- Eve E. Marder**, *Assistant Professor of Biology*
Ph.D., University of California, San Diego
- Donald Martino**, *Irving Fine Professor of Music*
M.F.A., Princeton University
- Teruhisa Matsusaka**, *Irving Schneider Professor*
of Mathematics
D.Sc., Kyoto University
- *John F. Matthews**, *Max Richter Professor of*
American Civilization and Institutions
A.B., University of Cincinnati
- ***Alan L. Mayer**, *Professor of Mathematics*
Ph.D., Princeton University
- Leslie Ann McArthur**, *Associate Professor of*
Psychology
Ph.D., Yale University
- *Cheryl G. McFadden**, *Assistant Professor of*
Theater Arts
B.A., Brandeis University
- Paul Mendes-Flohr**, *Visiting Associate Professor*
of Near Eastern and Judaic Studies
Ph.D., Brandeis University (Hebrew University)
- Teresa Mendez-Faith**, *Assistant Professor of*
Spanish
Ph.D., University of Michigan (On the Andrew
Mellon Foundation)
- James B. Merod**, *Assistant Professor of English*
and American Literature
Ph.D., Stanford University
- Robert B. Meyer**, *Associate Professor of Physics*
Ph.D., Harvard University
- Marvin Meyers**, *Harry S. Truman Professor of*
American Civilization
Ph.D., Columbia University
- Ralph Miliband**, *Ziskind Visiting Professor of*
Sociology
Ph.D., London School of Economics (University
of Leeds)
- Christopher Miller**, *Assistant Professor of*
Biochemistry
Ph.D., University of Pennsylvania
- Izchak Miller**, *Lecturer with rank Assistant*
Professor of Philosophy
Ph.D., University of California, Los Angeles
- Mitchell L. Model**, *Assistant Professor of Physics*
and Computer Science
Ph.D., Stanford University
- Paul H. Monsky**, *Professor of Mathematics*
Ph.D., University of Chicago

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

****Robert O. Moody, Jr.**, Associate Professor of Theater Arts

Charles W. Moore, Professor of Theater Arts
M.F.A., Yale University

***Ricardo B. Morant**, Minnie and Harold L.
Fierman Professor of Psychology
Ph.D., Clark University

Ruth Schachter Morgenthau, Adlai E. Stevenson
Professor of International Politics
Ph.D., Oxford University

Martha A. Morrison, Assistant Professor of
Classical and Oriental Studies
Ph.D., Brandeis University

Thomas Morton, Visiting Assistant Professor of
Chemistry
Ph.D., California Institute of Technology

Leonard C. Muellner, Associate Professor of
Classical and Oriental Studies
Ph.D., Harvard University

William T. Murakami, Associate Professor of
Biochemistry
Ph.D., University of Southern California

Walter Neumann, Visiting Associate Professor of
Mathematics
Ph.D., Bonn University (University of Maryland)

Andrew Nicas, Assistant Professor of
Mathematics
Ph.D., Princeton University

Alfred Nisonoff, Professor of Biology and
Rosenstiel Basic Medical Sciences Research
Center
Ph.D., The Johns Hopkins University

Joan L. Nissman, Assistant Professor of Fine Arts
Ph.D., Columbia University

Aris Noah, Assistant Professor of Philosophy
Ph.D., Brandeis University

Edward C. Nowacki, Assistant Professor of Music
Ph.D., Brandeis University

Wellington W. Nyangoni, Associate Professor of
African and Afro-American Studies
Ph.D., Harvard University

Thomas P. O'Connell, Assistant Professor of
Physical Education
M.Ed., Suffolk University

Susan Moller Okin, Assistant Professor of Politics
Ph.D., Harvard University

James D. Olesen, Associate Professor of Music
B.A., University of Chicago

Richard J. Onorato, Associate Professor of
English
Ph.D., Harvard University

Richard S. Palais, Professor of Mathematics
Ph.D., Harvard University

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

Hugh N. Pendleton, III, Professor of Physics
Ph.D., Carnegie Institute of Technology

Peter A. Petri, Associate Professor of Economics
Ph.D., Harvard University

Conrad Pope, Assistant Professor of Music
M.F.A., Princeton University

William M. Porter, Assistant Professor of
Classical and Oriental Studies
Ph.D., Boston University (On the Andrew Mellon
Foundation)

Richard A. Poster, Assistant Professor of Physics
Ph.D., University of California, Los Angeles

Joan L. Press, Assistant Professor of Biology and
Rosenstiel Basic Medical Sciences Research
Center
Ph.D., University of Pennsylvania

Robert O. Preyer, Professor of English and
Director, University Studies Program
Ph.D., Columbia University

Lawrence B. Pulley, Assistant Professor of
Economics
Ph.D., University of Virginia

Ziv Ran, Assistant Professor of Mathematics
Ph.D., University of California, Berkeley

Judith Rauchwarger, Assistant Professor of
Spanish
Ph.D., University of Michigan

Benjamin C.I. Ravid, Jennie and Mayer Weisman
Associate Professor of Jewish History
Ph.D., Harvard University

Esther E. Rawidowicz, Assistant Professor
Emerita of German
Ph.D., University of Berlin

Paula Rayman, Assistant Professor of Sociology
Ph.D., Boston College

Alfred G. Redfield, Professor of Physics and
Biochemistry and Rosenstiel Basic Medical
Sciences Research Center
Ph.D., University of Illinois

Bernard Reisman, Associate Professor of
American Jewish Communal Studies and
Director, Hornstein Program
Ph.D., Brandeis University

Margret E. Rey, Adjunct Professor of English

Joshua Rifkin, Associate Professor of Music
M.F.A., Princeton University

David H. Roberts, Assistant Professor of
Astrophysics
Ph.D., Stanford University

***Marguerite S. Robinson**, Professor of
Anthropology
Ph.D., Harvard University

*****Charles Rockland**, Assistant Professor of
Mathematics
Ph.D., Princeton University

- Nicholas Rodis**, *Professor of Physical Education*
Ed.M., American International College
- Tina Rolff**, *Artist-in-Residence (Theater Arts)*
- Dov Ronen**, *Visiting Associate Professor of Politics*
Ph.D., Indiana University (Harvard University)
- Michael Rosbash**, *Associate Professor of Biology and Rosenstiel Basic Medical Sciences Research Center*
Ph.D., Massachusetts Institute of Technology
- Myron Rosenblum**, *Professor of Chemistry*
Ph.D., Harvard University
- Kristine M. Rosenthal**, *Assistant Professor of Sociology*
Ed.D., Harvard University
- George W. Ross**, *Associate Professor of Sociology*
Ph.D., Harvard University
- Harry L. Rosser**, *Assistant Professor of Spanish*
Ph.D., University of North Carolina
- Joshua Rothenberg**, *Associate Professor Emeritus of Near Eastern and Judaic Studies*
M.A., Rutgers University
- Jean Albert Rousseau**, *Lecturer in French*
Agrégé, Faculté des Lettres, Paris
- Zick Rubin**, *Louis and Frances Salvage Professor of Social Psychology*
Ph.D., University of Michigan
- **Murray Sachs**, *Professor of French*
Ph.D., Columbia University
- I. Milton Sacks**, *Morris Hillquit Professor of Labor and Social Thought*
Ph.D., Yale University
- Benson Saler**, *Associate Professor of Anthropology*
Ph.D., University of Pennsylvania
- Anthony Santuoso**, *Saltzman Visiting Artist (Fine Arts)*
- Nahum M. Sarna**, *Dora Golding Professor of Biblical Studies*
Ph.D., Dropsie College
- Daniel Schenker**, *Instructor in English and American Literature*
M.A., The Johns Hopkins University (On the Andrew Mellon Foundation)
- Jerome A. Schiff**, *Abraham and Etta Goodman Professor of Biology*
Ph.D., University of Pennsylvania
- Stephen Schiff**, *Adjunct Lecturer in American Studies*
B.A., Wesleyan University
- Robert F. Schleif**, *Associate Professor of Biochemistry*
Ph.D., University of California, Berkeley
- Naomi B. Schmidt**, *Adjunct Assistant Professor of Physics*
Ph.D., Columbia University
- Howard J. Schnitzer**, *Professor of Physics*
Ph.D., University of Rochester
- John E. Schrecker**, *Associate Professor of History*
Ph.D., Harvard University
- Stephen A. Schuker**, *Associate Professor of History*
Ph.D., Harvard University
- Barney K. Schwalberg**, *Associate Professor of Economics*
Ph.D., Harvard University
- Lawrence M. Schwartz**, *Associate Professor of Physics*
Ph.D., Harvard University
- **Morris S. Schwartz**, *Mortimer Gryzmish Professor of Human Relations*
Ph.D., University of Chicago
- Gerald W. Schwarz**, *Associate Professor of Mathematics*
Ph.D., Massachusetts Institute of Technology
- Silvan S. Schweber**, *Professor of Physics*
Ph.D., Princeton University
- Nancy J. Scott**, *Assistant Professor of Fine Arts*
Ph.D., New York University
- Danielle Scouras**, *Instructor in French and Italian*
M. Phil., Columbia University (On the Andrew Mellon Foundation)
- Harold S. Shapero**, *Walter W. Naumburg Professor of Music*
A.B., Harvard University
- Shimon Sharvit**, *Joseph and Esther Foster Visiting Associate Professor of Near Eastern and Judaic Studies*
Ph.D., Bar Ilan University (Bar Ilan University)
- ***Marianne L. Simmel**, *Adjunct Professor of Psychology*
Ph.D., Harvard University
- Frank Sinclair**, *Assistant Professor of Physics*
Ph.D., London University
- Carmen J. Sirianni**, *Visiting Assistant Professor of Sociology*
Ph.D., State University of New York, Binghamton
- Marshall Sklare**, *Klutznick Family Professor of Contemporary Jewish Studies and Sociology and Director, Center for Modern Jewish Studies*
Ph.D., Columbia University
- **John H. Smith**, *Professor of English*
Ph.D., University of Illinois
- Kevin H. Smith**, *Adjunct Professor of Film*
A.B., University of Washington (On the Sam Spiegel Foundation in Cinematography)
- Esta B. Sofman**, *Lecturer in English*
M.A., Farleigh Dickinson University

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

Frederic T. Sommers, *Harry A. Wolfson*

Professor of Philosophy
Ph.D., Columbia University

*****Susan Staves**, *Associate Professor of English*
Ph.D., University of Virginia

Colin Steel, *Professor of Chemistry*
Ph.D., Edinburgh University

Maurice H. Stein, *Jacob S. Potofsky Professor of*
Sociology
Ph.D., Columbia University

David Joel Steinberg, *Adjunct Professor of*
History
Ph.D., Harvard University

Glenn Stevens, *Visiting Assistant Professor of*
Mathematics
Ph.D., Harvard University (Rutgers University)

Robert Stevenson, *Professor of Chemistry*
D.Sc., Glasgow University

Douglas J. Stewart, *Professor of Classical and*
Oriental Studies
Ph.D., Cornell University

Robert D. Stout, *Assistant Professor of Biology*
and Rosenstiel Basic Medical Sciences
Research Center
Ph.D., University of Michigan

Louis S. Stuhl, *Assistant Professor of Chemistry*
Ph.D., Cornell University

Edith V. Sullivan, *Visiting Assistant Professor of*
Psychology
Ph.D., University of Connecticut

Mary E. Sullivan, *Lecturer in Physical Education*
B.S., Boston State College

Peter Swiggart, *Professor of English*
Ph.D., Yale University

Marie Syrkin, *Professor Emerita of Humanities*
M.A., Cornell University

***Andrew G. Szent-Gyorgyi**, *Professor of Biology*
M.D., University of Budapest

***Robert Szulkin**, *Associate Professor of Russian*
Ph.D., Harvard University

Duane R. Taylor, *Assistant Professor of African*
and Afro-American Studies
Ph.D., Brandeis University

Ralph Thaxton, *Assistant Professor of Politics*
Ph.D., University of Wisconsin

Serge N. Timasheff, *Professor of Biochemistry*
Ph.D., Fordham University

Caldwell Titcomb, *Professor of Music*
Ph.D., Harvard University

Ian A. Todd, *Associate Professor of Classical and*
Oriental Studies
Ph.D., University of Birmingham

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

Saul Touster, *Visiting Professor of American*
Studies

J.D., Harvard University (City University of New
York)

Howard Treibitz, *Instructor in Music*
M.F.A., Brandeis University

Judith Ebel Tsipis, *Adjunct Assistant Professor of*
Biology
Ph.D., Massachusetts Institute of Technology

Thomas R. Tuttle, Jr., *Associate Professor of*
Chemistry
Ph.D., Washington University

***Pierre VanMoerbeke**, *Visiting Associate*
Professor of Mathematics
Ph.D., Rockefeller University (University of
Lieges)

Milton I. Vanger, *Professor of History*
Ph.D., Harvard University

John van Heijenoort, *Professor Emeritus of*
Philosophy
Ph.D., New York University

Helen Van Vunakis, *Professor of Biochemistry*
Ph.D., Columbia University

Cheryl L. Walker, *Assistant Professor of Classical*
and Oriental Studies
Ph.D., University of North Carolina

Lawrence J. Wangh, *Assistant Professor of*
Biology
Ph.D., Rockefeller University

John F.C. Wardle, *Associate Professor of*
Astrophysics
Ph.D., University of Manchester

Bernard M. Wasserstein, *Associate Professor of*
History and Director, Tauber Institute for
Holocaust Studies
D. Phil., Oxford University

Malcolm W. Watson, *Assistant Professor of*
Psychology
Ph.D., University of Denver

Richard S. Weckstein, *Carl Marks Professor of*
International Trade and Finance
Ph.D., Yale University

Gershon Weiler, *Joseph and Esther Foster*
Visiting Professor of Philosophy
M.A., University of Dublin (University of Tel
Aviv)

***Morris Weitz**, *Richard Koret Professor of*
Philosophy
Ph.D., University of Michigan

*****Hermann F. Wellenstein**, *Associate Professor*
of Physics
Ph.D., University of Texas

Pieter C. Wensink, *Associate Professor of*
Biochemistry and Rosenstiel Basic Medical
Sciences Research Center
Ph.D., The Johns Hopkins University

Kalpana P. White, *Assistant Professor of Biology*
Ph.D., Princeton University

Stephen J. Whitfield, *Associate Professor of American Studies*
Ph.D., Brandeis University

Alan Williamson, *Lecturer with rank of Associate Professor of English*
Ph.D., Harvard University (On the Fannie Hurst Foundation)

*****Arthur Wingfield**, *Professor of Psychology*
D. Phil., Oxford University

Peter D. Witt, *Lecturer in American Studies and Director, Education Program*
Ed.D., Harvard University

Jerome Wodinsky, *Associate Professor of Psychology*
Ph.D., University of Texas

***Kurt H. Wolff**, *Manuel Yellen Professor of Social Relations*
Ph.D., University of Florence

Peter Woll, *Professor of Politics*
Ph.D., Cornell University

David Wong, *Assistant Professor of Philosophy*
Ph.D., Princeton University

Jonathan S. Woocher, *Assistant Professor of Jewish Communal Service*
Ph.D., Temple University

Richard Yanowitz, *Assistant Professor of English*
Ph.D., University of California, Berkeley (On the Andrew Mellon Foundation)

Luis E. Yglesias, *Associate Professor of Spanish*
Ph.D., Harvard University

Charles Y. Young, *Assistant Professor of Physics*
Ph.D., Harvard University

****Dwight W. Young**, *Professor of Ancient Near Eastern Civilization*
Ph.D., Dropsie College

Louis V. Zabkar, *Joseph and Esther Foster Professor of Classical and Oriental Studies*
Ph.D., University of Chicago

Judith Francis Zeitlin, *Assistant Professor of Anthropology*
Ph.D., Yale University

Robert N. Zeitlin, *Assistant Professor of Anthropology*
Ph.D., Yale University

Harry Zohn, *Professor of German*
Ph.D., Harvard University

Irving K. Zola, *Professor of Sociology*
Ph.D., Harvard University

James A. Zoltz, *Instructor in Physical Education*
M.Ed., Springfield College

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

Jacob Hiatt Institute

Baruch Levy, Ph.D., *Lecturer in Social Policy.*
Florence Heller School of Social Welfare
Director Hiatt Institute

Seymour Gitin, Ph.D., *Director, Albright Institute of Archaeological Research*
Co-Director, Brandeis/ASOR Archaeological Semester

Chaim Adler, Ph.D., *Professor of Sociology,*
Hebrew University
Visiting Lecturer in Sociology

Asher Arian, Ph.D., *Professor of Politics and Dean of Faculty of Social Science, Tel Aviv University*
Visiting Lecturer in Politics

Clinton Bailey, Ph.D., *Senior Lecturer, Department of Middle East and African History, Tel Aviv University*
Visiting Lecturer in Anthropology

Nily Bar-Elly, B.A., *Instructor of Hebrew, Hebrew Union College*
Coordinator of Hebrew Studies

Rivka Gonen, Ph.D., *Lecturer in Archaeology, Haifa University*
Visiting Lecturer in Archaeology

Abraham Halkkin, Ph.D., *Professor Emeritus of History, City University of New York*
Visiting Professor of Jewish History

Bezalel Narkiss, Ph.D., *Associate Professor of History of Art, Hebrew University*
Visiting Lecturer in Art

Shalva Weil Reich, Ph.D., *Lecturer in Sociology, Hebrew University*
Visiting Lecturer in Sociology

Florence Heller Graduate School for Advanced Studies in Social Welfare

Stuart H. Altman, *Dean and Professor*
Ph.D., University of California, Los Angeles

Ralph E. Berry, Jr., *Adjunct Professor*
Ph.D., Harvard University

Robert H. Binstock, *Louis Stulberg Professor of Politics and Social Welfare*
Ph.D., Harvard University

James J. Callahan, Jr., *Lecturer, Senior Research Associate and Director, Levinson Policy Institute*
Ph.D., Brandeis University, Heller Graduate School

June Jackson Christmas, *Adjunct Professor of Mental Health Studies*
M.D., Boston University

Henry Cutter, *Adjunct Associate Professor*
Ph.D., Boston University

Gunnar Dybwad, *Professor Emeritus of Human Development*

J.D., University of Halle

Barry L. Friedman, *Lecturer with rank Assistant Professor*

Ph.D., Massachusetts Institute of Technology

Janet Z. Giele, *Lecturer and Senior Research Associate*

Ph.D., Radcliffe College

David G. Gil, *Professor of Social Policy*

D.S.W., University of Pennsylvania

Robert G. Gilbertson, *Adjunct Lecturer*

M.B.A., University of Chicago

Arnold Gurin, *Maurice B. Hexter Professor of Social Administration*

Ph.D., University of Michigan

Leonard J. Hausman, *Associate Professor of Economics*

Ph.D., University of Wisconsin

Robert B. Hudson, *Lecturer with rank of Assistant Professor*

Ph.D., University of North Carolina

****Kenneth J. Jones**, *John Stein Professor of Human Rehabilitation*

Ed.D., Harvard University

****Wyatt C. Jones**, *Professor of Social Research*

Ph.D., New York University

Mark Keller, *Adjunct Lecturer*

E. Milling Kinard, *Adjunct Lecturer*

Ph.D., Brandeis University, Heller Graduate School

Lorraine V. Klerman, *Associate Professor of Public Health*

D.P.H., Harvard University

Albert L. Kramer, *Adjunct Lecturer*

L.L.B., Boston University

Norman R. Kurtz, *Professor of Social Research*

Ph.D., University of Colorado

Lance Liebman, *Adjunct Lecturer*

L.L.B., Harvard University

David B. Lipsky, *Adjunct Lecturer*

Ph.D., Massachusetts Institute of Technology

Ann E. MacEachron, *Assistant Professor of Human Development (On the Gingold Foundation)*

Ph.D., Cornell University

Robert Morris, *Professor Emeritus of Social Planning*

D.S.W., Columbia University

Patricia O'Brien, *Adjunct Lecturer*

M.B.A., Simmons College

*On leave, Fall Term, 1980-81

**On leave, Spring Term, 1980-81

***On leave, 1980-81

*****Robert Perlman**, *Professor of Social Welfare*
Ph.D., Brandeis University, Heller Graduate School

Howard Rosen, *Adjunct Lecturer and Visiting Fellow, Center for Employment and Income Studies*

Ph.D., The American University

Alan P. Sager, *Assistant Professor of Urban and Health Planning*

Ph.D., Massachusetts Institute of Technology

Charles I. Schottland, *Professor Emeritus of Law and Social Welfare*

Certificate, Graduate School of Jewish Social Work and New York School of Social Work

James H. Schultz, *Professor of Welfare Economics*

Ph.D., Yale University

John F. Scott, *Adjunct Associate Professor of Social Research*

Ph.D., Brandeis University, Heller Graduate School

Violet M. Sieder, *Professor Emerita of Community Organization*

Ph.D., Brandeis University, Heller Graduate School

John P. Spiegel, *Professor Emeritus of Social Psychiatry*

M.D., Northwestern University

Roland Warren, *Lester and Alfred Morse Professor of Urban Studies*

Ph.D., Heidelberg University

Irving K. Zola, *Professor of Sociology*

Ph.D., Harvard University

Senior Research Staff

Christine Bishop, *Senior Research Associate*
Ph.D., Harvard University

Rebecca Black, *Senior Research Associate*
Ph.D., Boston University

Rosemary F. Dybwad, *Senior Research Associate*
Ph.D., University of Hamburg

Leonard Gruenberg, *Senior Research Associate*
Ph.D., Columbia University

Andrew B. Hahn, *Senior Research Associate and Adjunct Lecturer*

Ph.D., Brandeis University, Heller Graduate School

Robert I. Lerman, *Senior Research Associate and Adjunct Lecturer*

Ph.D., Massachusetts Institute of Technology

Joanna Lion, *Senior Research Associate*

Ph.D., University of Chicago

John C. Papajohn, *Senior Research Associate and Adjunct Lecturer*

Ph.D., Boston University

Alan Rosenfeld, *Senior Research Associate*
Ph.D., University of Massachusetts
Adriana Stadecker, *Senior Research Associate*
Ph.D., Massachusetts Institute of Technology

Stanley S. Wallack, *Senior Research Associate*
and Adjunct Lecturer
Ph.D., Washington University

Honors and Awards to Faculty 1980-1981

Margaret Bent, *Professor of Music*
1979 Dent Medal, The Royal Musical
Association

Arthur Berger, *Irving Fine Professor of Music*
1979-1980 ASCAP Composer Award (American
Society for Composers, Authors and
Publishers)

David Berkowitz, *Professor Emeritus of History*
American Council of Learned Societies grant-in-
aid

Carolyn Cohen, *Professor of Biology and*
Rosenstiel Basic Medical Sciences Research
Center
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